

Exhibit B

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

STUDENTS FOR FAIR ADMISSIONS,
INC.,

PLAINTIFF,

V.

CIVIL ACTION NO. 1:14-CV-00954

UNIVERSITY OF NORTH CAROLINA,
ET AL

DEFENDANT.

EXPERT REBUTTAL REPORT OF RICHARD D. KAHLENBERG

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I. Executive Summary

In my opening expert report, I outlined several ways in which the University of North Carolina at Chapel Hill (UNC) could use race-neutral alternatives to achieve the educational benefits of racial, ethnic, and socioeconomic diversity.¹ Simultaneously, UNC's proffered expert witnesses, Professors Caroline Hoxby and Bridget Terry Long, submitted reports suggesting (among other things) that race-neutral strategies would be unworkable.² In this rebuttal report, I refute their assertions.

My opening report reached three conclusions: (1) experience and academic research show that selective colleges and universities can maintain or increase diversity through race-neutral strategies without sacrificing academic quality; (2) UNC failed to fully consider numerous race-neutral strategies, including increasing socioeconomic preferences, increasing financial aid, utilizing geographic diversity, eliminating legacy preferences that favor non-minorities, increasing recruitment, increasing community college transfers, ending early admissions, and developing partnerships with disadvantaged North Carolina high schools; and (3) simulations of UNC's data demonstrate that race-neutral alternatives exist.

Highlights of my rebuttal report are as follows:

- UNC's experts are unable to dispute the substantial body of research and experience finding that a variety of viable race-neutral alternatives are available to highly selective institutions such as UNC.

¹ Report of Richard D. Kahlenberg, *Students for Fair Admissions, Inc. v. University of North Carolina, et al.*, January 12, 2018.

² Report of Caroline Hoxby, *Students for Fair Admissions, Inc. v. University of North Carolina, et al.*, January 12, 2018; and Report of Bridget Terry Long, *Students for Fair Admissions, Inc. v. University of North Carolina, et al.*, January 12, 2018. In addition, Professor Mitchell Chang submitted a report, to which I will refer, but which did not directly address race-neutral alternatives. See Report of Mitchell Chang, *Students for Fair Admissions, Inc. v. University of North Carolina, et al.*, January 12, 2018. Likewise, two experts for the Defendant-Intervenors submitted testimony to which I will refer, but which did not directly address race-neutral strategies. See Report of Uma Jayakumar, *Students for Fair Admissions, Inc. v. University of North Carolina, et al.*, January 12, 2018; and Report of David Cecelski, *Students for Fair Admissions, Inc. v. University of North Carolina, et al.*, January 9, 2018.

- UNC's witnesses are not able to discredit a powerful menu of race-neutral alternatives. These strategies, especially when used in tandem with one another, can produce the educational benefits of diversity without resorting to racial preferences.
- Simulations of race-neutral alternatives using actual UNC applicant data show that UNC has at its disposal multiple race-neutral strategies that would sustain and even boost diversity while maintaining UNC's academic excellence along many dimensions.

II. UNC's Witnesses Cannot Dispute the Substantial Body of Evidence Showing That Selective Colleges and Universities Can Maintain or Increase Diversity Through Race-Neutral Strategies Without Sacrificing Academic Quality.

In my opening report, I discussed extensive evidence and the experience of selective colleges and academic research that race-neutral alternatives can produce the educational benefits of diversity about as well as racial preferences.³ I also presented evidence that past experience and research suggest race-neutral strategies do not compromise academic outcomes.⁴

By contrast, Long claims that academic research does not support the viability of race-neutral strategies and that the most selective colleges—those most closely resembling UNC—have not been able to sustain diversity.⁵ She also raises concerns about the academic preparedness of students admitted through race-neutral alternatives.⁶ Long's analysis is wrong on all counts.⁷

³ Kahlenberg Report, pp. 5-16.

⁴ Kahlenberg Report, pp. 14-16.

⁵ Long Report, pp. 14-41.

⁶ Long Report, p. 24.

⁷ In addition to the material referenced in my initial report, I have relied on the articles, data, analysis and other sources referenced in this report in formulating my opinions.

A. Long incorrectly concludes that past experience with race-neutral strategies suggests they are ineffective in producing diversity at highly selective universities such as UNC.

In my opening report, I outlined evidence from a study finding that 7 of 10 selective colleges employing race-neutral alternatives—including socioeconomic preferences, place-based or geographic approaches, and other strategies—were able to match or exceed levels of black and Hispanic enrollment obtained in the past using racial preferences.⁸ I also demonstrated that the other three of those selective colleges could do more to promote racial and ethnic diversity.⁹ Long does not directly dispute this study, which was discussed in SFFA’s complaint.¹⁰

With respect to socioeconomic preferences, Long incorrectly claims that “[n]o institution has implemented this strategy while also removing race-conscious policies, so these proposals are hypothetical.”¹¹ Accordingly, she reserves discussion of that practice to academic simulations (see below).¹² In point of fact, Halley Potter found that nine of ten universities in the Century Foundation study employed socioeconomic preferences without using racial preferences.¹³

⁸ Kahlenberg Report, p. 6.

⁹ Kahlenberg Report, pp. 7-9.

¹⁰ SFFA v. University of North Carolina Complaint, pp. 22-23.

¹¹ Long Report, p. 4. See also Long Report, p. 9 (“Another set of race-neutral approaches have instead focused on giving admissions preference to applicants with lower family incomes or socioeconomic status. ... This strategy has not been implemented in the absence of race-conscious policies”); and Long Report, p. 32 (“I know of no university that has replaced race-consciousness with an admissions policy based solely on giving preference according to socioeconomic status.”).

¹² Long Report, pp. 33-38.

¹³ Halley Potter, “Transitioning to Race-Neutral Admissions: An Overview of Experiences in States Where Affirmative Action Has Been Banned,” in Richard D. Kahlenberg (ed.), *The Future of Affirmative Action: New Paths to Higher Education Diversity after Fisher v. University of Texas* (Century Foundation/Lumina Foundation, 2014), pp. 77-79, Table 6.1.

Instead, Long focuses much of her time on the experiences of states using place-based approaches such as high school percentage plans, which she deems ineffective. Her primary example is the experience of Texas. Long cites a 2008 study by Mark Long and Marta Tienda concluding that the percentage plan in Texas “was not an effective race-neutral approach as levels of racial and ethnicity diversity did not return to pre-*Hopwood* levels.”¹⁴ Then, speaking generally about percentage plans (which are also employed in Florida and California), Long claims that “past attempts did not effectively replicate the level of racial and ethnic diversity of prior admissions policies.”¹⁵

Long is wrong. Both Texas and Florida’s suite of race-neutral strategies (which included percentage plans, socioeconomic preferences, and the like) *did* replicate earlier levels of racial diversity.¹⁶ Mark Long and Marta Tienda’s conclusion about the percentage plan, as Long notes, finds it insufficient only after *isolating* its effect from other race-neutral strategies (such as socioeconomic preferences and financial aid).¹⁷ But as discussed further below, the Supreme Court’s test is not whether each race-neutral strategy, standing by itself, will achieve racial diversity, but whether “available, workable race neutral alternatives do not suffice.”¹⁸

¹⁴ Long Report, p. 21.

¹⁵ Long Report, p. 27.

¹⁶ See *Fisher v. University of Texas*, 133 S. Ct. 2411, 2416 (2013) (In 2004, race-neutral programs achieved more racial diversity (4.5% African-American and 16.9% Hispanic shares) than had been achieved using race in 1996 (4.1% African-American and 14.5% Hispanic shares)). See also Richard D. Kahlenberg and Halley Potter, *A Better Affirmative Action: State Universities that Created Alternatives to Racial Preferences* (Century Foundation, 2013), pp. 26-30

¹⁷ Long Report, pp. 21-22.

¹⁸ *Fisher*, 133 S. Ct. at 2420.

B. Long incorrectly concludes that the best research fails to find viable race-neutral strategies that produce sufficient diversity.

In my opening report, I referenced three research simulations—by Anthony Carnevale, Matthew Gaertner, and Sigal Alon—finding that socioeconomic preferences, percentage plans, or combinations of the two, can produce high levels of racial, ethnic, and socioeconomic diversity without compromising academic quality.¹⁹ Long discusses two of the three studies I cite (she fails to discuss the Alon study) and argues that a 2015 study conducted by Sean Reardon and colleagues which examines socioeconomic preferences is superior, as it is “a much more comprehensive and realistic simulation of the effects of using socioeconomic-based preferences than the other studies reviewed.”²⁰ Reardon concludes that using parental income, education, and occupation in a socioeconomic preference will not produce sufficient diversity.²¹

But as I explained in my opening report, limiting the definition of socioeconomic disadvantage to such factors as income, education, and occupation is not advisable because it is highly unfair, on average, to African-American and Latino candidates who, in the aggregate, face additional disadvantages.²² Even middle-class African Americans live in higher poverty neighborhoods than low-income whites.²³ Moreover, while African Americans typically earn incomes that are 70% of white incomes, African-American median household wealth is just 10% of white median household wealth.²⁴ Adding concentrated neighborhood poverty and

¹⁹ Kahlenberg Report, pp. 11-16.

²⁰ Long Report, p. 38.

²¹ Sean F. Reardon, Rachel Baker, Matt Kasman, Daniel Klasik, and Joseph B. Townsend, “Can Socioeconomic Status Substitute for Race in Affirmative Action College Admissions Policies? Evidence From a Simulation Model,” Educational Testing Service, 2015.

²² Kahlenberg Report, pp. 22-24.

²³ Kahlenberg Report, p. 22.

²⁴ Kahlenberg Report, pp. 22-23.

family wealth into a socioeconomic preference is the more realistic thing to do, and also will disproportionately benefit African-American and Hispanic students.²⁵

Reardon and colleagues excluded neighborhood factors on the dubious grounds that such data are “not typically available to admissions officers.”²⁶ Along the same lines, Long contends that using multiple measures of socioeconomic status would “require additional information about the applicant, which could have implications for the feasibility of this plan.”²⁷

In fact, the College Board provides admissions officers with detailed information about neighborhood clusters and high school clusters. These data include 12 key indicators about neighborhoods (including median family income, education, and SAT scores), and 12 key indicators about high schools (including percentage of families below poverty and number of AP exams per student). The College Board divides all communities into 33 Educational Neighborhood Clusters and 29 High School Clusters.²⁸ And, through the FAFSA process, universities have extensive information about the family wealth and income of applicants. Other than perhaps mortgage lenders, colleges have access to as much financial information about applicants as any major institution in American society.²⁹

²⁵ Several of the other studies Long cites, such as Bowen (2005) and Cancian (1998) are similarly flawed because they are limited to income. Long Report, p. 33.

²⁶ Reardon, et al., p. 5.

²⁷ Long Report, p. 34. See also Long Report, pp. 4 and 38.

²⁸ College Board, “Descriptor PLUS: Cluster Description Guide – Educational Neighborhood Clusters; High School Clusters,” 2011, <http://media.collegeboard.com/digitalServices/pdf/miscellaneous/ClusterDescriptionGuide.pdf>.

²⁹ Long also cites research suggesting that socioeconomic preferences are not “efficient.” Long Report, p. 28. I discuss these studies in Section III.

C. Long incorrectly concludes that race-neutral strategies compromise academic quality.

In my opening report, I outlined evidence from practice and research findings that race-neutral alternatives need not compromise the academic excellence of selective colleges and universities.³⁰ By contrast, in her report, Long raises a concern that percentage plans could negatively impact the academic excellence of institutions.³¹ In particular, she alleges that if students are admitted “from lower-quality high schools,” percentage plans “could impact the institution’s mission to maintain academic excellence.”³²

But rather than merely *speculating* about the possible effect of percentage plans on academic readiness, as Long does, it is possible to investigate the actual outcomes of students at institutions such as UT Austin with experience employing such plans. As noted in my opening report, a careful study by Sunny Niu and Marta Tienda of Princeton University found that between 1993 and 2003, black and Hispanic students admitted through the percentage plan “consistently perform as well or better” than white students ranked at or below the third decile.³³ Moreover, as noted in my opening report, UNC officials flatly rejected the claim that a percentage plan would lead to the admission of underprepared students.³⁴

III. UNC’s Experts Make Several Conceptual Errors in Evaluating the Viability of Race-Neutral Alternatives at UNC.

In their expert reports, Long, Hoxby, and Mitchell Chang commit several conceptual errors in their analyses. Because these mistakes run through the discussion of several of the race-neutral strategies, I discuss them at this stage, returning to them where appropriate at

³⁰ Kahlenberg Report, pp. 14-16.

³¹ Long Report, pp. 24-25.

³² Long Report, p. 24.

³³ Kahlenberg Report, p. 14.

³⁴ Kahlenberg Report, p. 41.

later points in the report. As outlined below, UNC's experts: (1) fail to articulate a standard for "critical mass" necessary for evaluating whether race-neutral alternatives generate sufficient diversity; (2) erroneously claim that racial diversity should be achieved in the most "efficient" manner, even if doing so involves race-norming of student applications; (3) erroneously reject race-neutral strategies when they fail to meet existing racial representation with absolute precision; (4) incorrectly claim that each race-neutral strategy has to work as a stand-alone alternative; (5) fail to recognize that socioeconomic diversity and geographic diversity are relevant indicators (alongside racial diversity) in evaluating whether a race-neutral strategy produces the educational benefits of diversity; (6) incorrectly evaluate academic readiness by narrow standardized test results rather than a combination of high school grades and test scores; (7) fail to conduct a basic regression analysis to determine whether, among the holistic factors UNC considers, race or socioeconomic status counts more in admissions, to help inform whether adjusting weights could provide a viable race-neutral alternative; and (8) erroneously claim to have done an "exhaustive" review of race-neutral alternatives when several strategies are omitted from their analysis.

First, at the most basic level, UNC's three experts fail to articulate the necessary predicate for any analysis of race-neutral alternatives: what level of racial and ethnic diversity is required to provide the educational benefits of diversity? (This is consistent with the refusal of UNC witnesses to concretely define critical mass.)³⁵ Without a concrete definition of what success looks like, it is impossible to demonstrate that a race-neutral alternative has failed.

³⁵ Kahlenberg Report, pp. 71-72 (citing UNC testimony that there is no minimum percentage of underrepresented minorities required to achieve the educational benefits of diversity).

The Supreme Court has held that universities have a compelling interest in achieving the educational benefits of diversity, and that in order to garner those benefits, a university must have a “critical mass” of underrepresented minority students that will allow such students to feel comfortable participating and not speak as a representative of their race.³⁶ UNC itself says it “aims to enroll critical masses of students who identify themselves as members of groups the University deems underrepresented.”³⁷

UNC’s primary expert on the benefits of diversity, Mitchell Chang, says that he prefers the term “compositional diversity” to “critical mass.”³⁸ “Compositional diversity,” he writes, “should not be seen as a specific number or percentage, but as a flexible range that constitutes sufficient diversity to achieve an institution’s mission-driven diversity goals.”³⁹ For Chang, meeting that numerical range is crucial because “sufficient compositional diversity on a campus is necessary for the educational benefits of diversity to start to flow.”⁴⁰ Chang elaborates that having compositional diversity is necessary to promote cross-racial understanding, to allow for the creation of safe spaces for underrepresented minority students, to bring new views to classroom discussions, to reduce racial prejudice, and to counter tokenism and racial isolation.⁴¹ Given its pivotal role in the analysis, it is stunning that throughout his 111-page report, Chang fails to provide any estimate whatsoever to quantify

³⁶ See *Grutter v. Bollinger*, 539 U.S. 306, 330 (2003). See also *Fisher II*, 136 S. Ct. 2198, 2212 (“Although demographics alone are by no means dispositive, they do have some value as a gauge of the University’s ability to enroll students who can offer underrepresented perspectives.”).

³⁷ UNC0079436; UNC0000016, cited in Hoxby Report, p. 8.

³⁸ Chang Report, p. 10. n.3.

³⁹ Chang Report, p. 10 n.3.

⁴⁰ Chang Report, p. 10 n.3.

⁴¹ Chang Report, pp. 8, 10, 11-13, 15, 18, and 21.

the “flexible range” of underrepresented minority students UNC needs in order to attain the benefits of diversity.

Long and Hoxby are no more helpful. Long, after defining critical mass, writes that “I do not offer any opinion on how ‘critical mass’ should be measured or whether UNC-Chapel Hill has achieved it.”⁴² Hoxby, likewise, says it is important that universities achieve “critical masses” of underrepresented minority students, but adds, “I offer no opinion as to what level of diversity is sufficient or should otherwise be sought by UNC.”⁴³

The closest any expert gets to an identifiable numerical goal is various references to statewide demographics. Long notes that “[p]ublic universities also often consider the population composition and specific needs of their state, and they may aspire to have the institution’s student body reflect the relative representation of state residents by racial category.”⁴⁴ Along the same lines, Defendant-Intervener’s expert, Uma Jayakumar, argues that “the educational benefits of diversity requires a synergy of quantitative and qualitative factors,” including “[m]eaningful demographic representation.”⁴⁵ Jayakumar does not explicitly define “critical mass,” but in the context of defining “meaningful representation,” says that UNC needs “better representation of diverse students.”⁴⁶ In doing so, she makes a comparison between the racial makeup of UNC’s student population and North Carolina’s generation population: “12% of UNC students identify as Asian/Asian American, 8% as black/African

⁴² Long Report, pp. 11-12.

⁴³ Hoxby Report, pp. 8 and 38.

⁴⁴ Long Report, p. 6. See also Long Report p. 11 (Institutions may “have the goal to make their student body reflect the population composition of their state or local area.”). Likewise, in assessing the effectiveness of the Texas Top 10% plan, Long says the real standard should not be whether the plan was effective in “maintaining levels of racial and ethnic diversity” but whether it was able “to mirror the population increases experienced in the state.” See Long Report, p. 22.

⁴⁵ Jayakumar Report, p. 69.

⁴⁶ Jayakumar Report, p. 45.

American, 8% as Latinix, 0.5% as American Indian/Alaska Native, with approximately 72% identifying as white or not identifying a category.” She continues: “As a reference point, these numbers reflect less diversity than in North Carolina as a whole. The 2016 American Community Survey Five-Year Estimates found that 21.5% of North Carolinians identified as black/African American, 8.9% as Latinix, 2.6% as Asian American, 1.2% as American Indian/Alaska Native, and 69.2% as white.”⁴⁷

The Supreme Court has always distinguished between “critical mass” and “proportional representation.”⁴⁸ Years ago, the Court rejected proportional representation as an appropriate measure, reasoning that racial balancing for its own sake was patently unconstitutional.⁴⁹ The Jayakumar report unwittingly suggests one reason why proportional representation is a dangerous concept: taking her numbers at face value, achieving proportional representation would require only a modest cut to white shares but catastrophic declines in Asian shares. Even if we assume every UNC student not identifying his or her race were white (as Jayakumar does), to achieve proportional representation, white shares would decline by just 2.7 percentage points (or 3.75%). Asian-American shares, by contrast, would have to fall by 9.4 percentage points (or 78.3%). Ironically, later in her report, Jayakumar suggests that part of the reason UNC should be concerned about diversity is that Asian Americans are underrepresented in the North Carolina State legislature.⁵⁰

⁴⁷ Jayakumar Report, p. 46.

⁴⁸ Fisher II, 136 S. Ct. at 2225.

⁴⁹ Regents of Univ. of Cal. v. Bakke, 438 U.S. 265, 307 (1978). Even the justices who sided with U.C. Davis Medical school noted that the 16% quota in dispute was less than statewide proportional representation. 438 U.S. at 374 (Brennan, J., concurring in part and dissenting in part).

⁵⁰ Jayakumar Report, pp. 49-50.

The bottom line is that the failure to define critical mass means UNC has advanced no guidance on whether race-neutral alternatives are producing sufficient racial and ethnic diversity—other than the discredited concept of proportional racial representation.

Second, in discussing race-neutral alternatives Long and Hoxby continually return to the concept of “efficiency” in a way that may be commonplace among economists but runs contrary to the legal rationale behind race-neutral strategies in the first place.⁵¹ Long cites a variety of studies by researchers finding that racial preferences are more “efficient” at producing a given level of racial diversity than race-neutral strategies.⁵² These studies make the pedestrian point that if a school wants to obtain a certain racial admission level, then the most direct way to do so is through the use of racial preferences. Long goes so far as to suggest that it is standard university practice to race-norm applicants—*i.e.*, adjusting criteria to achieve a certain racial outcome—and that anything short of that would be inefficient. Admissions committees, she says, “admit the best-qualified candidates within each racial or ethnic group.... Without taking race into account explicitly, they would no longer be able to pick the best candidates within each race.”⁵³

But administrative convenience is not the goal of this exercise. We examine race-neutral alternatives in order to *avoid* using racial classifications, because “[d]istinctions between citizens solely because of their ancestry are by their very nature odious to a free people, and therefore are contrary to our traditions and hence constitutionally suspect.”⁵⁴ Courts have recognized that racial preferences impose costs—such as increased racial antagonism and the

⁵¹ See, e.g., Long Report, p. 12; Hoxby Report, p. 56.

⁵² Long Report, pp. 12, 42-43.

⁵³ Long Report, p. 41.

⁵⁴ Fisher, 133 S. Ct. at 2418 (citations and quotations omitted).

imposition of a stigma on recipients—which is why the courts require colleges to avoid using race except as a last resort.⁵⁵

Third, Hoxby’s analysis uses the wrong standard in analyzing whether race-neutral strategies are viable. The legal standard is whether a nonracial approach could promote a substantial interest “about as well and at tolerable administrative expense.”⁵⁶ While there is debate over whether, say, a race-neutral strategy which produced 60% as much racial diversity might be sufficient,⁵⁷ Hoxby judges an alternative ineffective if it does not *precisely* match existing levels of racial diversity and SAT profiles, irrespective of the impact on other elements of diversity.⁵⁸ If an alternative resulted in 8% representation of Hispanics, compared with a baseline of 9%, or if SAT scores decline at all, the alternative is rejected—even if it doubled socioeconomic or geographic diversity. More demanding yet, she rejects an alternative as insufficient if it does not meet the racial diversity level and SAT profile for each racial and ethnic *subgroup*. (See below for further discussion of this issue.)

Fourth, Hoxby and Long both incorrectly contend that each and every race-neutral strategy must succeed *in isolation* of other strategies in replicating previous racial and ethnic diversity levels achieved using racial preferences. They both evaluate various alternatives as “stand-alone” strategies and find them wanting.⁵⁹ But this approach makes little sense. No

⁵⁵ Kahlenberg Report, p. 25.

⁵⁶ Fisher, 133 S. Ct. at 2420 (quotation omitted).

⁵⁷ Kahlenberg Report, pp. 17-18 (citing Thomas J. Kane and James E. Ryan, “Why ‘Fisher’ Means More Work for Colleges,” *Chronicle of Higher Education*, July 29, 2013).

⁵⁸ Hoxby Report, pp. 65-66.

⁵⁹ See Long Report, p. 5 (dismisses ending legacy preferences because it would not “be adequate as a stand-alone race-neutral alternative”); p. 9 (financial aid and targeted recruitment “are not seen as a stand-alone policy”); p. 32 (knows of no university that “solely” uses socioeconomic preferences); and Hoxby Report, p. 4 (“[E]liminating any preference for children of alumni, or the Early Action cycle would not, in itself, be a ‘workable race-neutral strategy.’”).

university has approached race-neutral alternatives in that fashion. In states where affirmative action has been banned (usually by voter initiative), for example, state and university officials have adopted a mix of race-neutral alternatives that they use *in combination*.⁶⁰ The U.S. Supreme Court is seeking to encourage universities to achieve the educational benefits of diversity without using racial preferences, where possible. It makes no sense, therefore, to reject a variety of alternatives that might be insufficient as isolated strategies when they could work successfully in tandem to achieve the benefits of diversity without resorting to racial preferences.

Take, for example, the race-neutral alternatives of socioeconomic preferences and boosting financial aid. Both must work in tandem to succeed: socioeconomic preferences might admit underrepresented minority low-income students, but none would actually enroll without financial aid. Conversely, the most generous financial aid program may not bring socioeconomic and racial diversity if disadvantaged students aren't admitted in the first place. In a scenario where the two strategies combined brings the educational benefits of diversity and maintains academic standards, it would be absurd to reject them because neither works by itself as a stand-alone strategy.

Fifth, in examining the effects of race-neutral alternatives, Hoxby, Long, and Chang do not appear to appreciate the meaning of the educational benefits of diversity, as outlined both by the U.S. Supreme Court and by UNC. The Supreme Court has long recognized that the educational benefits of diversity flow not only from racial diversity but also from other factors, such as socioeconomic diversity and geographic diversity.⁶¹ UNC officials also have

⁶⁰ Potter, "Transitioning to Race-Neutral Admissions," pp. 77-80, Table 6.1.

⁶¹ See, e.g., Grutter, 539 U.S. at 324-25; Bakke, 438 U.S. at 316.

recognized that socioeconomic and geographic diversity are critical to the education of students.⁶² The University's 2005 Diversity Action Plan, for example, said that in evaluating the benefits of diversity race should be "a single element" within a "larger definition of diversity" that is defined "broadly" to include "differences in social background [and] economic circumstances" among other factors.⁶³

Given this broad conception of diversity, it is jarring that Professor Hoxby's report does not consider diversity as a whole (including its racial, socioeconomic, and geographic components) in evaluating the costs and benefits of various race-neutral strategies. To the contrary, she fails even to *report* the effects of alternatives on socioeconomic and geographic diversity.⁶⁴ Likewise, in Chang's 111-page report, the value of racial and ethnic diversity is discussed hundreds of times, while socioeconomic diversity and geographic diversity factors are mentioned only twice each, in passing.⁶⁵

As I outlined in my opening report, UNC is grossly lacking in socioeconomic diversity, with *16 times* as many high-income students as low-income students on campus.⁶⁶ A race-neutral alternative that creates considerable racial diversity and also boosts socioeconomic diversity would have an important educational benefit beyond one that merely promotes racial diversity.

Yet the language both Hoxby and Long use is completely dismissive of the benefits of socioeconomic diversity per se. Socioeconomic preferences are seen solely as "proxies" for

⁶² See Kahlenberg Report, pp. 44-45.

⁶³ Kahlenberg Report, p. 44.

⁶⁴ This omission is contrary to best practices according to Long. See Long Report, p. 13 (It is important for studies to report "not only the racial composition of accepted applicants but also other factors such as academic preparation levels, family backgrounds, and the distribution of accepted applicants by high school or residence.").

⁶⁵ Chang Report, pp. 29 and 55 (socioeconomic diversity), and 11 and 64 (geographic diversity).

⁶⁶ Kahlenberg Report, p. 26.

race, suggesting their only value is in indirectly boosting racial diversity.⁶⁷ Hoxby's framing of the issue is particularly disdainful of socioeconomic diversity. She terms the admission of "a poor white student" to be "a false positive."⁶⁸ Such an admission would be a mistake, she says, akin to a university seeking basketball players and instead admitting a "tall person" who was "not a basketball player" and who does not "actually contribute to the basketball team."⁶⁹

Sixth, in reporting the academic readiness of the admitted pool of students, Hoxby limits her analysis to SAT scores, contrary to the stated values of UNC. UNC officials repeatedly emphasized that in assessing academic readiness, they look primarily to high school grades earned through four years, not standardized tests taken at a single sitting. UNC's own research found that high school grades were a better predictor of college performance than standardized tests.⁷⁰ As Hoxby herself notes, when UNC does its "school group review" to ensure accuracy of admissions by comparing students within a particular high school, students are listed by high school grade point average, not SAT scores.⁷¹ As noted in my opening report, UNC officials also testified that high school GPA is a better predictor of academic success than SAT scores.⁷² It is peculiar, therefore, that Hoxby's simulations look solely at SAT scores, to the exclusion of high school grades.

More broadly, UNC has repeatedly said it does not try to maximize test scores in its admissions policies. As Hoxby herself observes, UNC has a "reasonable density" of admitted

⁶⁷ See Long Report, pp. 4, 30, 41; Hoxby Report, p. 38.

⁶⁸ Hoxby Report, p. 48. See also Hoxby Report p. 51.

⁶⁹ Hoxby Report, pp. 48 and 39.

⁷⁰ Kahlenberg Report, p. 47.

⁷¹ Hoxby Report, p. 26. See also Kahlenberg Report, pp. 47-48.

⁷² Kahlenberg Report, pp. 47-48.

students in the 1080-1460 SAT range—a spread of 380 SAT points.⁷³ Hoxby’s data show that among current North Carolina public high school admits to UNC, there is a 165-point SAT gap between African Americans (who average 1215) and Asian Americans (who average 1380).⁷⁴ Hoxby’s analysis also shows that if UNC chose to admit North Carolina public high school students with the highest grades and test scores (as opposed to through holistic admissions that includes race as a factor), the scores of African-American matriculates would increase 98 points, Hispanic matriculate scores would increase 94 points, and overall scores would increase 37 points.⁷⁵

Rather than simply maximize academic performance indicators, UNC says it is seeking to train “students to become the next generation of leaders.”⁷⁶ In order to do so, academic indicators are relevant but only as a way to make “predictions about future performance and contributions” and assess “future potential.”⁷⁷ Given those goals, it is surely appropriate to consider academic readiness in the context of socioeconomic disadvantage because those students who have overcome obstacles may have *more* long run potential than would be indicated by narrow raw metrics like SAT scores.

As Justice William O. Douglas once recognized, “[a] black applicant who pulled himself out of the ghetto into a junior college may thereby demonstrate a level of motivation, perseverance, and ability that would lead a fairminded admissions committee to conclude that he shows more promise for law study than the son of a rich alumnus who achieved better

⁷³ Hoxby Report, p. 46.

⁷⁴ Hoxby Report, p. 43, Exhibit 4. The SAT gap between African-American matriculates (1192) and Asian-American matriculates (1356) is 164 points. Exhibit 4.

⁷⁵ Hoxby Report, Exhibit 13, Table 3. See also Kahlenberg Report, pp. 49-51.

⁷⁶ Long Report, p. 7. Hoxby Report, p. 7.

⁷⁷ Long Report, p. 6.

grades at Harvard. That applicant would be offered admissions not because he is black, but because as an individual he has shown he has the potential, while the Harvard man may have taken less advantage of the vastly superior opportunities offered him.”⁷⁸ Such an applicant “may not realize his full potential in the first year of law school, or in the full three years, but in the long pull of a legal career his achievements may far outstrip those of his classmates whose earlier records appeared superior by conventional criteria.”⁷⁹ Douglas’s contention is supported by empirical research. Harvard Law Professor Lani Guinier has noted that a “Harvard study of graduates over three decades found that students with low Scholastic Aptitude Test scores and blue-collar backgrounds tended to be more successful, with success defined by income, community involvement and professional satisfaction. This suggests that a student’s drive to succeed—along with an opportunity to do so—may be a better indicator of future success than test scores.”⁸⁰

Seventh, Hoxby fails to report an elementary regression analysis among admissions factors to show the relative weights accorded to various factors (such as race, socioeconomic status, and legacy preference) in UNC’s holistic admissions process. In her report, Hoxby says she seeks to “model the current UNC admissions process as well as I can, including racial and ethnic indicators.”⁸¹ But nowhere does she report the results of the weights accorded the various admissions criteria. Others seeking to assess race-neutral strategies have conducted such analyses as a matter of course.⁸² These analyses are helpful in determining how heavily

⁷⁸ *DeFunis v. Odegaard*, 416 U.S. 312, 331 (1974).

⁷⁹ *DeFunis*, 416 U.S. at 331.

⁸⁰ Lani Guinier, “The Real Bias in Higher Education,” *New York Times*, June 24, 1997.

⁸¹ Hoxby Report, pp. 74 and 91.

⁸² See, e.g., William G. Bowen, Martin A. Kurzweil, and Eugene M. Tobin, *Equity and Excellence in American Higher Education* (2005), p. 105, Table 5.1. Arcidiacono also conducts such an analysis. See Kahlenberg Report, p. 33-34.

race is considered in admissions and to offer the possibility of shifting weights (for example, increasing the boost provided to disadvantaged students, or eliminating the weight for legacy status) in order to promote racial and socioeconomic diversity in a race-neutral fashion. These regression analyses also allow simulations to otherwise mimic an institution's current admissions process (for example, the weights given to SATs, high school GPA, or extracurricular activities) while altering the emphasis placed on other factors (such as race or socioeconomic status).

Eighth, Long and Hoxby fail to provide a full analysis of several of the race-neutral alternatives mentioned in the SFFA complaint or by UNC officials in testimony.⁸³ Long says she reviewed “what I believe to be an exhaustive list of potential race-neutral alternatives that UNC-Chapel Hill might consider.”⁸⁴ In fact, Long and Hoxby fail to address several critical alternatives successfully employed at other colleges, including (a) increasing the number of students who transfer from community college (a disproportionate share of whom are economically disadvantaged and come from underrepresented minority groups); (b) eliminating early admissions preferences (that tend to benefit white and affluent students); and (c) forming partnerships with disadvantaged high schools (to increase the pipeline of qualified applicants from such schools).⁸⁵

⁸³ SFFA Complaint, pp. 38-39 (on community college transfers) and pp. 41-42 (on eliminating early admissions). See also Kahlenberg Report, p. 64 (discussing UNC's testimony on forming partnerships with disadvantaged high schools).

⁸⁴ Long Report, p. 46.

⁸⁵ See Hoxby Report, p. 34 (noting that her simulations focus on three strategies: socioeconomic preferences, high school top percentage plans, and geographic neighborhood considerations).

IV. UNC's Experts Cannot Refute UNC's Complete Failure To Fully Consider Numerous Race-Neutral Strategies.

In my opening report, I noted that despite the clear instructions of the U.S. Supreme Court that universities must demonstrate that “no workable race-neutral alternatives would produce the educational benefits of diversity,” UNC conducted only rudimentary investigations until the advent of this litigation.⁸⁶ If UNC had conducted the required analysis, it would have discovered that there were numerous race-neutral alternatives available. I discuss them below.

A. Socioeconomic Preferences

My opening report outlined extensive evidence showing that UNC could increase racial and ethnic diversity by increasing socioeconomic preferences. I provided evidence that (1) socioeconomic factors (especially wealth) are highly correlated with race; (2) UNC's socioeconomic diversity is deeply lacking; (3) UNC does not give its admissions officers access to critical income and wealth data that could be used to implement a race-neutral alternative; and (4) UNC currently provides much greater weight to race in admissions than socioeconomic status and therefore could increase the weight it provides to socioeconomic status as part of a race-neutral alternative. (My report also included simulations of socioeconomic preferences (Simulation # 3 and 4)—which I discuss separately in part V of this report.)

UNC's experts do not present any evidence to call into question any of my four core contentions (most of which were presented in the SFFA complaint).⁸⁷ They do not deny that

⁸⁶ Fisher, 133 S. Ct. at 2420.

⁸⁷ SFFA Complaint, pp. 25-26 and 35 (outlining correlation between socioeconomic status and race, the lack of socioeconomic diversity at UNC, and the ability of UNC to increase the weight of socioeconomic status in admissions).

wealth is highly correlated with race. They present no evidence to suggest that UNC already has a high degree of socioeconomic diversity. They cannot deny that UNC admissions officers lack access to critical data through a system of “need-blind” admissions. And, as noted earlier, UNC’s experts put forth no analyses whatsoever to assess the relative weight provided to race and socioeconomic status in admissions, and therefore cannot counter Arcidiacono’s finding that UNC weights race much more heavily than socioeconomic status. Indeed, Long presents research confirming that, as a general matter, selective colleges provide much larger preferences based on race than socioeconomic status.⁸⁸ This is consistent with evidence I presented in my opening report.⁸⁹ (For discussion of Hoxby’s socioeconomic preference simulations, see Part V).

B. Increasing Financial Aid

In my opening report, I explained that UNC could attract more racial and socioeconomic diversity by increasing its commitment to financial aid. I noted that (1) UNC’s financial aid policies are much less generous than other institutions, such as U.C. Berkeley; (2) UNC diverts precious resources to non-need “merit aid” for students who do not actually need financial aid to attend UNC; (3) UNC arbitrarily caps the proportion of student tuition that can be used to subsidize low-income students at a rate much lower than other leading universities; (4) UNC officials said they would do what is necessary to maintain diversity, including increasing financial aid; and (5) UNC is the 35th wealthiest university on the planet

⁸⁸ Long Report, p. 32 (citing Reardon’s research).

⁸⁹ Kahlenberg Report, pp. 34-35 (citing four studies of supporters of racial preferences finding that race counts more than socioeconomic status at selective colleges).

(out of more than 26,000 universities worldwide) and likely could afford to increase financial aid.⁹⁰

Long does not deny that financial aid can be an important race-neutral strategy. Indeed, her own report suggests that boosting financial aid proved an important race-neutral strategy in two states. In Texas, Long notes that the Longhorn Opportunity Scholarship for students in inner city and rural high schools which in the past have sent few students to UT Austin was found to be “the reason for increases in minority enrollment.”⁹¹ And in Florida, Long’s own research found that Florida’s Student Access Grant increased enrollment of state high school students, many of whom were black and Hispanic.⁹²

Nor do Long or Hoxby contest UNC’s ability to increase financial aid. Long says in general universities are pinched financially, and that increasing financial aid “is not financially feasible for most institutions.”⁹³ But, tellingly, she makes no such claim for UNC specifically, one of the wealthiest colleges in the world. Hoxby, meanwhile, mostly avoids discussion of financial aid, other than to suggest providing it for out-of-state students would require tuition increases, a point of speculation for which she offers no evidence.⁹⁴

⁹⁰ Kahlenberg Report, p. 38 (35th wealthiest); Cybermetrics Lab, Ranking Web of Universities, “Countries arranged by Number of Universities in Top Ranks,” January 2017, <http://www.webometrics.info/en/node/54> (26,368 universities worldwide).

⁹¹ Long Report, p. 23.

⁹² Benjamin L. Castleman and Bridget Terry Long, “Looking Beyond Enrollment: The Causal Effect of Need-Based Grants on College Access, Persistence and Graduation,” National Bureau of Economic Research (August 2013).

⁹³ Long Report, p. 40.

⁹⁴ Hoxby Report, p. 96.

C. Utilizing Geographic Diversity

In my opening report, I identified a number of universities that employ place-based or geographic approaches to admissions.⁹⁵ The University of Texas and the University of Florida have been particularly successful in creating high-quality and racially and socioeconomically diverse student populations by admitting top students within each high school in the state.⁹⁶

Tellingly, neither Long nor Hoxby even mentions UNC's 2012 and 2014 simulations of percentage plans, both of which showed these options to be viable race-neutral alternatives.⁹⁷ The simulations also produced considerable geographic diversity, something that the U.S. Supreme Court has long identified as a contributor to the educational benefits of diversity.⁹⁸

Instead, Hoxby and Long launch a six-part attack on the legitimacy of geographic diversity plans. (Hoxby also conducts a simulation of two geographic diversity plans—a percentage plan and a census-based plan—which I discuss in Section V.)

First, Long criticizes place-based plans for relying on geographic and school segregation to produce diversity. She says they have “a disconcerting reliance on a social ill to be successful.”⁹⁹ But while the social ill of segregation is certainly disconcerting, a program to provide *relief* to victims of the social ill is surely to be celebrated. Percentage plans and place-based approaches provide a benefit to the *actual victims* of segregation, just as socioeconomic

⁹⁵ Kahlenberg Report, pp. 5, 14, and 39.

⁹⁶ Kahlenberg and Potter, A Better Affirmative Action, pp. 26-33 and 44-48. As noted above, Long tries to discredit Texas's success by saying the percentage plan as a stand-alone strategy did not by itself meet earlier levels of racial diversity; but clearly, in combination with other race-neutral alternatives, UT was able to exceed prior levels of black and Hispanic representation using racial preferences.

⁹⁷ Kahlenberg Report, pp. 39-52.

⁹⁸ Bakke, 438 U.S. at 316.

⁹⁹ Long Report, p. 4. See also Long Report, pp. 15-16.

preferences provide a remedy to the *actual victims* of socioeconomic disadvantage. As Georgetown Law professor Sheryll Cashin has noted, place-based approaches benefit those who actually suffer from living in segregated environments rather than enabling “high-income, advantaged blacks to claim the legacy of American apartheid.”¹⁰⁰

Second, Long and Hoxby both criticize percentage plans for relying on a single metric—high school class rank—in determining high-stakes admissions decisions. Other factors, such as SAT scores, extracurricular activities, athletic ability, and the quality of essays should also count, they argue.¹⁰¹ But as my opening report noted, a percentage plan can be holistic, choosing the best students (as measured by grades, test scores, extracurricular activities and the like) from all of a state’s high schools. This, after all, is precisely the approach simulated in my opening report (Simulation #5).¹⁰²

Third, Long and Hoxby both complain that plans that effectively provide a better chance of admissions for those living in or attending higher poverty neighborhoods and schools will encourage a “gaming” of the system by parents who will move to such neighborhoods or schools.¹⁰³ Long cites a study suggesting that among students with an “opportunity” to make such a move, at least 5% did in Texas.¹⁰⁴ Long says “the concern is that student attendance patterns at certain high schools might change enough to reduce the degree to which specific schools are associated with specific racial or ethnic groups.”¹⁰⁵

¹⁰⁰ Kahlenberg Report, p. 25 (citing Sheryll Cashin, *Place, Not Race: A New Vision of Opportunity in America* (Boston: Beacon Press, 2014), p. 78).

¹⁰¹ Long Report, pp. 4, 24; Hoxby Report, pp. 77. Long also speculates that the reliance on grades alone will reduce the academic quality of the incoming class. Long Report, p. 24. But as noted above, the actual performance of students in percentage plans has been strong. See Section II.C above.

¹⁰² Kahlenberg Report, pp. 76-79.

¹⁰³ Long Report, p. 4; Hoxby Report, pp. 81 and 90.

¹⁰⁴ Long Report, p. 26.

¹⁰⁵ Long Report, p. 26.

This is a curious response. If racial segregation is a “social ill,” as Long correctly identified it to be, then presumably the alleviation of it would be something to be celebrated, rather than feared. Fifty years of research suggest that a given student will perform better in an economically and racially integrated school than a high poverty segregated one.¹⁰⁶ Improved outcomes for minority students in economically and racially integrated schools, in turn, should make the need for special programs to create higher education diversity less urgent.

Fourth, Hoxby suggests that percentage plans would not work for students in North Carolina’s private high schools because the state requirement to report students by class rank applies only to public schools.¹⁰⁷ But the Texas Top 10% plan applies to private and public high schools within the state.¹⁰⁸ Whether required to by law or not, presumably a percentage plan in North Carolina would provide a powerful incentive for private schools to report class rank so as not to disqualify their students from the opportunity to be admitted to UNC.

Fifth, Long suggests that a percentage plan that recruited talented low-income and underrepresented minority students to UNC could have a negative effect on the ability of private institutions within North Carolina to recruit such students. Rice University and Southern Methodist University suffered, she argues, when UT Austin adopted its Top 10% law.¹⁰⁹ But, of course, precisely the same phenomenon occurs when universities employ racial preferences. Peter Hinrichs of the Federal Reserve Bank of Cleveland has demonstrated that

¹⁰⁶ Richard D. Kahlenberg, *All Together Now: Creating Middle-Class Schools through Public School Choice* (Washington DC: Century Foundation Press, 2001), pp. 25-39.

¹⁰⁷ Hoxby Report, p. 94.

¹⁰⁸ Texas Higher Education Coordinating Board, “College for All Texans: Automatic Admissions – Top 10% Rule,” (“To meet the requirements, you must graduate in the top 10% of your class at a recognized public or private high school in Texas or a high school operated by the U.S. Department of Defense and be a Texas resident or eligible to pay resident tuition.”), <http://www.collegeforalltexans.com/index.cfm?objectid=24937C2A-D8B0-34EB-1FC5AF875A28C616>.

¹⁰⁹ Long Report, pp. 23-24.

in California, under a previous system employing racial preferences, the percentage of black students formed a “U-shaped curve” if one arrays colleges on an axis of by average student SAT scores. There are concentrations of black students at extremes—schools with very low SAT scores and those with very high SAT scores, and fewer black students at the schools in the middle. Racial preferences at highly selective schools essentially rob mid-tier universities of minority students.¹¹⁰

Sixth, Long and Hoxby both raise a concern that by focusing on top-ranked students from North Carolina’s high schools, a percentage plan could miss high-scoring underrepresented minorities who fail to make the class rank cut off in their more affluent desegregated high schools.¹¹¹ While this may be true, another group of underrepresented minority students—those attending more segregated schools—benefit for the first time. In considering this total equation, it is notable that state legislators representing minority constituencies in Texas have been among the most ardent supporters of the percentage plan and have rebuffed efforts to scrap it because they believe, on balance, that minority students benefit from the plan.¹¹²

In the end, none of the various complaints lodged against percentage plans stacks up. In the simulations section of this report (Part V), I delve more deeply into the likely effects of such plans in North Carolina.

¹¹⁰ Peter Hinrichs, “Affirmative Action and Racial Segregation,” October 11, 2017, p. 19, Figure 4. http://economics.ucr.edu/seminars_colloquia/2017-18/applied_economics/Hinrichs%20paper%20for%2010%2023%2017%20seminar.pdf.

¹¹¹ See Long Report, p. 25; Hoxby Report, p. 81.

¹¹² See Matthew Watkins, “Texas senators mull eliminating Top 10 Percent Rule,” Texas Tribune, April 5, 2017, <http://www.texastribune.org/2017/04/05/texas-senators-mull-eliminating-top-10-percent-rule/>. Although underrepresented minority students in segregated high schools may have lower standardized test scores, on average, than those underrepresented minority students in more affluent, desegregated high schools, their scores should be interpreted in light of the obstacles they have had to overcome compared with those students in desegregated schools.

D. Eliminating Legacy Preferences

In my opening report, I discussed evidence that UNC currently provides legacy preferences in admissions for the children of alumni, who are disproportionately wealthy and white. Eliminating these preferences and practices would increase racial, ethnic, and socioeconomic diversity. I further outlined research questioning the link between legacy preferences and alumni giving; research examining legacy preferences at 100 universities found “no evidence that legacy preference policies themselves exert an influence on giving behavior.”¹¹³

Long and Hoxby do not dispute that UNC provides legacy preferences, as outlined in SFFA’s complaint.¹¹⁴ Nor do they dispute that being the child of an alumni has nothing to do with the individual merit of applicants but rather the actions of their parents. Nor do they deny that legacy preferences disproportionately disadvantage minority and socioeconomically disadvantaged students. Indeed, Long provides further supporting evidence of this point. Citing research on elite universities from William Bowen and colleagues, Long notes that “legacy applicants are far less likely to be from Black or Latino families.”¹¹⁵ Long continues, “As such, the preference for legacy applicants puts students in these racial and ethnic groups at a disadvantage and may work counter to having a racially and ethnically diverse class.”¹¹⁶

Instead, Long and Hoxby collectively make three claims: (1) eliminating legacy preferences would not be a powerful stand-alone strategy; (2) this strategy works better at

¹¹³ Kahlenberg Report, pp. 56-57.

¹¹⁴ SFFA Complaint, p. 40.

¹¹⁵ Long Report, p. 45.

¹¹⁶ Long Report, p. 45.

small and private colleges than large public universities; and (3) this strategy could harm the health of UNC by threatening its financial standing. All three claims are flawed.

Long suggests that ending legacy preferences would not “be adequate as a stand-alone race-neutral alternative” because of the limited number of beneficiaries.¹¹⁷ But as noted earlier, it makes no sense to reject an alternative that contributes to racial and ethnic diversity just because it does not, in one fell swoop, achieve the goal entirely on its own. Indeed, universities that have eliminated legacy preferences as a race-neutral strategy have done so in combination with other efforts, such as socioeconomic preferences and percentage plans.¹¹⁸

Long further suggests that ending legacy preferences (and a separate strategy of making standardized tests optional) are policies that “have been focused at private colleges and universities, and most of them are fairly small institutions, suggest[ing] that these approaches are not appropriate for a large public university.”¹¹⁹ But several large public institutions are among the most prominent that have eliminated legacy preferences. Exemplars include U.C. Berkeley, UCLA, the University of Georgia, and Texas A&M.¹²⁰

Finally, Long suggests that at selective colleges legacy applicants “may be given an advantage in the admissions process in an effort to keep alumni happy, which influences college rankings and charitable giving.”¹²¹ But Long provides no evidence or research to support the idea that legacy preferences increase alumni giving. Nor does she rebut research

¹¹⁷ Long Report, p. 5. See also Hoxby Report, p. 22 (suggesting legacy preferences are small) and Long Report p. 45 (suggesting that eliminating such preferences would have a “small effect”). In fact, legacy preferences for out of state applicants are quite large, second only to those for African American students, and greater than those provided to Hispanic and First Generation students. See Kahlenberg Report, p. 34.

¹¹⁸ Potter, “Transitioning to Race-Neutral Admissions,” pp. 77-79.

¹¹⁹ Long Report, p. 5.

¹²⁰ Potter, “Transitioning to Race-Neutral Admissions,” pp. 77-78.

¹²¹ Long Report, p. 44.

cited in the SFFA complaint finding that there is no causal relationship between the existence of a legacy preferences and alumni donations.¹²² Nor can UNC's experts deny that excellent institutions such as Oxford, Cambridge, Caltech, UC Berkeley, and UCLA admit exceptional students and provide superb educations without using legacy preferences.¹²³

The bottom line is that UNC employs extensive preferences for some of society's most privileged children—the offspring of UNC alumni—and those advantages disproportionately harm low-income and underrepresented minority student. The attempts of UNC's experts to defend these practices fall short in all respects.

E. Increasing Recruitment.

In my opening report, I noted that UNC could do a much better job of recruiting economically disadvantaged applicants, many of whom are underrepresented minorities. I observed that (1) UNC itself recognized that the University of Florida's recruitment efforts were successful; (2) only 22% of in-state and 12% of out-of-state UNC applicants are first generation college, even though 73% of North Carolina adults lack a college degree; and (3) the failure to recruit first generation students impacts underrepresented minority students disproportionately.¹²⁴ Recruitment is a particularly important race-neutral alternative because unlike admissions preferences (whether based on racial, socioeconomic, or legacy status), recruitment of highly qualified students not now applying to UNC can reduce any potential tradeoff between diversity and academic preparedness.

In several respects, UNC's expert reports further *strengthen* the case that UNC could do much more to recruit high-ability low-income and underrepresented minority students.

¹²² SFFA Complaint p. 41. See also Kahlenberg Report, pp. 56-67.

¹²³ Kahlenberg Report, p. 56.

¹²⁴ Kahlenberg Report, pp. 57-59.

Hoxby is perhaps the nation's most well-known proponent of the idea that there is a large pool of talented low-income students who are not now applying to selective colleges and could be recruited by relatively inexpensive means. Hoxby and her coauthor Christopher Avery have identified 35,000 high-ability low-income students, of whom only one-third apply to a selective college. Of all low-income high-achieving students, roughly 2,000 are African American and 2,700 are Hispanic.¹²⁵ Those most likely to fail to apply are what Hoxby and Avery call “one-offs,” high-achieving low-income students in schools with small number of high-achieving classmates.

Long acknowledges the importance of Hoxby's research as well as research by Jessica Howell and Alexandria Radford that confirms a strong pool that is waiting to be recruited. But oddly, Long cites the existence of this large pool of low-income high achievers as an impediment to socioeconomic diversity preference plans—as if the lack of applicants was an immutable fact of life rather than an extraordinary opportunity to do better.¹²⁶

Hoxby, by contrast, correctly points out that low-cost interventions can “significantly” increase applications because the major barrier is lack of information on the part of applicants.¹²⁷ Hoxby and Sarah Turner of the University of Virginia found that high-achieving, low-income students who were mailed a \$6 packet of information from a trusted organization (such as the College Board) were more likely to apply, and 78% more likely to be admitted, to a selective institution than high-achieving, low-income students who did not receive the

¹²⁵ Kahlenberg Report, p. 15. See also Hoxby Report, p. 100

¹²⁶ Long Report, p. 39. Elsewhere, Long does acknowledge that targeted recruitment can increase applications. Long Report, p. 20

¹²⁷ Hoxby Report, p. 101.

packet.¹²⁸ Hoxby notes that once high-ability, low-income students apply, they usually are admitted by selective colleges and do enroll.¹²⁹

Moreover, Long acknowledges that it may be even easier to recruit high-ability, low-income students if UNC were to combine this approach with a change in admissions plan that incentivizes this population to apply. She writes, “the factors that a university considers as part of its admissions process ... influence the applicant pool.”¹³⁰ For example, Long notes, under the Texas top 10% plan, research finds that UT Austin saw increased numbers of applications from students in high poverty and high minority high schools.¹³¹ The geographic diversity of applicants also increased after adoption of the top 10% plan.¹³² Likewise, after Florida adopted its Top 20% plan along with other measures, it saw black and Hispanic applications increase, even though race was removed as a consideration in admission.¹³³

Finally, Hoxby and Long strengthen the case for aggressive recruiting as a race-neutral strategy at UNC in particular. To begin, as Hoxby points out, all public high school students in North Carolina take the ACT.¹³⁴ This is a fairly unusual practice. North Carolina is one of only a dozen states to provide this universal opportunity.¹³⁵ Whereas it is sometimes hard for

¹²⁸ Caroline M. Hoxby and Sarah Turner, “Informing Students About Their College Options: A Proposal for Broadening the Expanding College Opportunities Project,” Hamilton Project, Brookings Institution, June 2013, pp. 15-16. See also Brooke Donald, “New Tool Helps Smart Low-Income Students Realize Great College Opportunities, Stanford Research Says,” Stanford News, March 29, 2013.

¹²⁹ Hoxby Report, p. 101 n.154.

¹³⁰ Long Report, p. 10.

¹³¹ Long Report, p. 20. Long claims these increases were offset by declines from minority students in other high schools, but the declines were seen in studies from 2003 and 2004, while the increased applications were recorded in a 2010 study, so it is not clear that the net decline Long asserts in fact occurred.

¹³² Long Report, p. 20.

¹³³ Long Report, p. 19.

¹³⁴ Hoxby Report, p. 45.

¹³⁵ Susan M. Dynarski, “ACT/SAT for all: A cheap, effective way to narrow income gaps in college,” Brookings Institution, February 8, 2018, <http://www.brookings.edu/research/act-sat-for-all-a-cheap-effective-way-to-narrow-income-gaps-in-college/>.

colleges to identify talented low-income students because many do not sign up to take the ACT or SAT, UNC is located in a state where that impediment is removed. Research shows in Michigan, a law requiring all public-school juniors to take the ACT uncovered 480 new academically talented low-income students for every 1,000 low-income academically talented students who were discovered prior to the law's enactment.¹³⁶

In addition, Long points to powerful research specifically focused on North Carolina suggesting the state has a serious “undermatch” problem—in which large numbers of talented students do not apply to selective colleges. As Long observes, ground-breaking research by William Bowen, Matthew Chingos, and Michael McPherson found that 40% of high-achieving, low-income students in North Carolina did not apply to a selective college.¹³⁷ Looking at just high-ability students, Bowen and his colleagues found that 64% of those whose parents did not attend college undermatched, compared with just 41% of those whose parents had a college degree, and 31% of those whose parents had a graduate degree.¹³⁸

Hoxby's main response to recruitment as a race-neutral strategy is to claim that the vast majority of high-ability, low-income students in North Carolina are white or Asian. To identify the pool of high-ability, low-income students who are particularly likely to undermatch, she identifies those who are “one-offs,” which she defines as a student attending a school where no more than three other high-achieving students are present per class. Hoxby focuses on “one-off” students who score 1300 or higher on the SAT.¹³⁹ Using that metric, she

¹³⁶ Dynarski, “ACT/SAT for all.”

¹³⁷ Long Report, p. 39.

¹³⁸ William G. Bowen, Matthew M. Chingos and Michael S. McPherson, *Crossing the Finish Line: Completing College at America's Public Universities* (Princeton University Press, 2009), p. 103, Figure 5.5.

¹³⁹ Hoxby Report, p. 102.

concludes that 7% of such students are African American, 5% Hispanic, 2% Native American, and 86% white or Asian.¹⁴⁰

Hoxby's analysis is problematic because her definition of high-ability students unfairly excludes many high-ability African-American, Hispanic, and low-income students in a couple of respects. First, by focusing solely on SAT scores, Hoxby misses high-ability students from the pool who may perform exceedingly well at their high schools but not meet the SAT bar set. Hoxby's data of all North Carolina public high school students from 2011-12 to 2014-15 finds that the percentage of African-American and Hispanic students (of all income levels) with high grades and class rank was higher than those with high standardized test scores.¹⁴¹

Second, the 1300 SAT cutoff is set far too high. Indeed, it exceeds the average SAT score of UNC matriculates from North Carolina in 2014-15 who are underrepresented minorities by 86 points (1214) and of African Americans by 109 points (1191).¹⁴² A more appropriate SAT cutoff would be 1080—the level at which Hoxby finds UNC admits currently show reasonable density.¹⁴³ I asked Arcidiacono to analyze Hoxby's data to identify high-achieving low-income students as those scoring above 1080 on the SAT. Under this more appropriate metric, in the admitted class of 2014-2015, NCERDC data suggest there were 3015 high-achieving low-income students in North Carolina public high schools, of which

¹⁴⁰ Hoxby Report, p. 102.

¹⁴¹ For all students, not just those who are low-income, the percentage of African Americans with high adjusted test scores ranged from 5%-6%; and the percentage of Hispanics from 3%-5%. Hoxby Report, Exhibit 3, Table 3. By contrast, for those same years, the percentage of underrepresented minority students with high grade point averages in high school was greater for African Americans (6-7%) and Hispanics (4-5%); and the percentage with high class rank was higher still for African Americans (13%) and Hispanics (5-7%). Hoxby Report, Exhibit 3, Tables 1 and 2.

¹⁴² Hoxby Report, Exhibit 13, Table 3.

¹⁴³ Hoxby Report, p. 46.

UNC data suggest only 649 (22%) applied to UNC.¹⁴⁴ Of those non-applicants, 374 were African American and 350 were Hispanic.

In recruiting high-achieving, low-income students, UNC could place a special emphasis on aggressively recruiting those students who are underrepresented minority students. Unlike a preference provided at the admissions stage, encouraging underrepresented minority students to apply and then holding them to a race-neutral standard has widespread support and does not appear to present constitutional concerns.¹⁴⁵

F. Increasing Community College Transfers

In my opening report, I demonstrated that UNC could increase racial, ethnic, and socioeconomic diversity by increasing transfers from community colleges, institutions that are far more likely to have underrepresented minority and low-income students than UNC. This strategy is employed by a number of highly selective private and public institutions to promote

¹⁴⁴ UNC data do not match perfectly with NCERDC data. Approximately 15% of UNC North Carolina public high school applicants are not in the NCERDC data. Therefore, if low-income high achievers are missing in the NCERDC data at the same rate as other North Carolina public high school students, then the number of non-applicants may be 15% lower than indicated in the text.

¹⁴⁵ See Fisher II, 136 S. Ct. at 2213 (describing an effort to intensify “outreach efforts to African American and Hispanic applicants” as a race-neutral alternative because it does not classify students by race at the admissions). It is relevant to note that Hoxby’s report is in tension with her previous analysis of the prevalence of high-achieving minority students at the national level. On May 30, 2013, Michael Petrilli of the Fordham Foundation published an opinion piece which suggested, given Hoxby and Avery’s one-off research, that targeted recruitment of high-achieving, low-income underrepresented minority students could eliminate the need for racial preferences to achieve existing levels of racial diversity at selective colleges stage. Michael Petrilli, “Use Facts, Not Courts, to Fix Affirmative Action,” Bloomberg, May 30, 2013, <http://www.bloomberg.com/view/articles/2013-05-30/use-facts-not-courts-to-fix-affirmative-action>. In private correspondence, Matt Chingos of the Brookings Institution, expressed disagreement with Petrilli’s analysis. In response, Petrilli contacted Hoxby for her thoughts on the disagreement. In response, she wrote to Petrilli and Chingos: “Our numbers suggest that there are [a] sufficient number of low-income, high-achieving, underrepresented minority students out there to keep selective institutions as racially/ethnically [sic] diverse as they now are—without affirmative action in admissions. HOWEVER, this does not mean that schools could immediately achieve this. We would probably need (i) full-blown information interventions of the Hoxby-Turner type, (ii) additional recruiting directed to the students who are underrepresented minority students.” Caroline M. Hoxby, email correspondence with Michael Petrilli, May 31, 2013 (attached at Appendix E).

diversity.¹⁴⁶ Yet UNC lags far behind in this arena. Only 5.3% of UNC's incoming class consists of community college transfers, compared with nearly 20% at U.C. Berkeley.¹⁴⁷

Although this idea was outlined in the SFFA complaint, and UNC widely touts the success of its C-STEP program, neither Hoxby nor Long devotes any attention to the issue whatsoever.¹⁴⁸ Long's report claims to review an "exhaustive list" of race-neutral strategies, yet this one is omitted entirely.¹⁴⁹

G. Ending Early Admissions

In my opening report, I provided evidence showing that UNC could increase its racial and socioeconomic diversity by dropping its early admissions program, which provides a preference in admissions to such applicants and disproportionately benefits wealthy and white students.¹⁵⁰ This race-neutral alternative is also discussed in the SFFA complaint.¹⁵¹

Nevertheless, Long does not discuss this strategy at all, and Hoxby only discusses it in passing. Hoxby does not dispute the evidence showing that those applying through early admission are more likely to be accepted and that such applicants are disproportionately wealthy and white. Instead, she dismisses ending early admissions as a race-neutral strategy with the claim that the preference is "not important as a statistical matter."¹⁵² In fact, Arcidiacono finds that early admissions preferences count more than some other preferences employed by UNC, including those for fee-waiver applicants.¹⁵³

¹⁴⁶ Kahlenberg Report, pp. 60-62.

¹⁴⁷ Kahlenberg Report, p. 62.

¹⁴⁸ SFFA Complaint, pp. 38-39.

¹⁴⁹ Long Report, p. 46.

¹⁵⁰ Kahlenberg Report, pp. 62-64.

¹⁵¹ SFFA Complaint, pp. 41-42.

¹⁵² Hoxby Report, p. 22.

¹⁵³ Kahlenberg Report, pp. 33-34.

H. Forming Partnerships with Disadvantaged High Schools

In my opening report, I noted that several universities have formed partnerships with disadvantaged high schools to boost the pipeline of low-income and underrepresented minority applicants.¹⁵⁴ UNC discussed this route as a race-neutral alternative but chose not to pursue it. Neither Hoxby nor Long even mentions this strategy, again calling into question the claim to have reviewed an “exhaustive list” of race-neutral approaches.¹⁵⁵

I. Renaming Buildings That Inhibit the Educational Benefits of Diversity

An expert for intervener-defendants, David Cecelski, points out in his report that UNC to this day has a number of buildings named after champions of white supremacy.¹⁵⁶ Cecelski concludes his report by noting that “[t]he message sent by buildings and monuments that honor the white supremacist past remains.”¹⁵⁷ UNC’s expert Michael Chang, in turn, suggests that in order for an institution to capitalize on the educational benefits of diversity, students must feel welcome on campus, because students who feel excluded are less likely to participate robustly in discussions.¹⁵⁸

Assuming these beliefs are sincere, UNC could, tomorrow, rename those buildings and increase the educational benefits of diversity on campus. Doing so could send a powerful signal of inclusion and help unleash the benefits of diversity. This race-neutral strategy would not in any way compromise academic readiness, yet UNC has refused to take this simple step.

¹⁵⁴ Kahlenberg Report, p. 64.

¹⁵⁵ Long Report, p. 46.

¹⁵⁶ Cecelski Report, p. 12.

¹⁵⁷ Cecelski Report, p. 26.

¹⁵⁸ Chang Report, p. 25 (emphasizing importance of both diversity and inclusion). See also Jayakumar Report, p. 8.

V. Simulations of UNC's Data Demonstrate That Race-Neutral Alternatives Exist.

In my opening report, I discussed findings from a number of race-neutral simulations that Professor Arcidiacono conducted at my request. I explained that a number of the options successfully produced the educational benefits of diversity, including Simulation 3 (socioeconomic preference analyzing family and neighborhood factors) and Simulation 5 (an in-state percentage plan).

In her report, Professor Hoxby conducted a number of additional simulations predicting the effect of various race-neutral alternatives. Hoxby's three primary simulations involve: (1) socioeconomic admissions preferences; (2) a high school percentage plan; and (3) a Census tract geographic diversity plan.

My simulations and Hoxby simulations have some key differences. Primary among them is that whereas my simulations use data from actual applicants, Hoxby constructs a data set using all North Carolina public high school students, whether or not those students applied. In addition, whereas my simulations model admissions, Hoxby models both admissions and projected matriculates.

As Arcidiacono explains in his rebuttal report, there are a number of fundamental problems with how Hoxby constructed her dataset and how she analyzed the data.¹⁵⁹ Apart from those outlined by Arcidiacono himself, there are six reasons why my simulations of race-neutral alternatives—and reporting of the results—are superior to Hoxby's.

First, because Hoxby limits her core simulations to in-state public high school students, she is only able to model results for 66% of matriculates and 32% of applicants to the freshman

¹⁵⁹ Arcidiacono Rebuttal Report, Section 2.

class.¹⁶⁰ By contrast, most of my simulations are more complete because they cover the entire entering freshman class.¹⁶¹

Second, because Hoxby uses non-applicants in her sample, she is not able to employ the holistic ratings employed in my simulations (because non-applicants obviously do not have such ratings.)¹⁶² As a result, her analysis does not replicate UNC's current admissions policy as closely; she thus misses the nuance available when one considers such factors as personal ratings, extracurricular activities, athletic participation, and the like.

Third, because Hoxby includes non-applicants in the sample, she has to make assumptions about which students will actually apply. She assumes 75% will do so based on past experience.¹⁶³ But this is a risky proposition, as Hoxby herself acknowledges, because applicant pools might change depending on which admissions regime is used. A socioeconomic preference, for example, might encourage more low-income students to apply, and a percentage plan might encourage more of those at the top of their high school class to apply.¹⁶⁴

Fourth, Hoxby chooses to report a very narrow set of diversity outcomes—race and ethnicity—even though UNC officials testified that they believe educational benefits flow from other aspects of diversity, such as socioeconomic and geographic diversity.¹⁶⁵ This was a

¹⁶⁰ See Kahlenberg Report, p. 39 n. 141 (66% of UNC's total class consists of North Carolina public high school students) and Hoxby Report, p. 37 n.80 (32% of UNC applicants attended North Carolina public high schools).

¹⁶¹ Neither Hoxby nor I include transfer students in our simulations because those data were not made available by UNC.

¹⁶² Hoxby Report, p. 46.

¹⁶³ Hoxby Report, p. 46.

¹⁶⁴ Hoxby and Long both acknowledge this possibility. See Hoxby Report, p. 36 and Long Report, p. 10. Nevertheless, Hoxby does not adjust the applicant pool for the type of plan employed. See Hoxby Report, pp. 46 and 78.

¹⁶⁵ See, e.g., Hoxby Report, pp. 79-80, 88. UNC officials indicated that non-racial aspects of diversity also matter. See Kahlenberg Report, pp. 44-45.

peculiar choice given the importance UNC officials say they place on various dimensions of diversity.¹⁶⁶

Fifth, Hoxby limits her reporting of academic readiness indicators under race-neutral simulations to one metric: SAT scores. She ignores high school grades as a measure of readiness, which is peculiar, as noted earlier, because UNC itself says it values high school GPA as more important than standardized test scores.¹⁶⁷

Sixth, in her simulation of socioeconomic preferences in particular, Hoxby limits reporting to a very small subset of the universe of in-state public high school students. For example, as outlined further below, one of the socioeconomic preferences Hoxby models is a set aside for just 18.75% of the North Carolina public high school class—which is just 12% of the entire class.¹⁶⁸ Hoxby then engages in an exercise in which she supplements reporting on this subset of students (which she refers to as the “disadvantaged stage” of admissions) with a lottery to randomly “complete the class” with 100 different combinations of non-disadvantaged students to see if it is possible to reach current shares of both racial subgroup representation and SAT score.¹⁶⁹ (She concludes they do not.) But Hoxby fails to provide information on the overall levels of diversity and academic preparedness for the class as a whole. If the admissions system of selective colleges is faulted for being opaque, Hoxby’s simulation seeks to replicate the opacity of that process in her simulations.

¹⁶⁶ Kahlenberg Report, p. 44-45. Hoxby herself acknowledges that “a university, especially a state university, may believe that its educational mission is enhanced by enrolling students from all areas of the state.” Hoxby Report, p. 83.

¹⁶⁷ Kahlenberg Report, pp. 46-48.

¹⁶⁸ Hoxby Report, p. 67.

¹⁶⁹ Hoxby Report, pp. 64-65.

Taken together, Hoxby's presentation of the socioeconomic preferences modeling makes it impossible to apply the standard outlined by the Supreme Court to see whether race-neutral alternatives produce results "about as well" as using race,¹⁷⁰ because (1) she does not provide results for the full class, only the "disadvantaged" portion; (2) she reports data on racial and ethnic diversity but provides no information about the educational benefits that may flow from socioeconomic and geographic diversity; and (3) she does not provide a full picture of academic readiness because she shows standardized test scores in her simulation but not high school grade point averages.

For those reasons, I asked Arcidiacono to apply Hoxby's methodology (flawed as it may be)¹⁷¹ to achieve a more complete picture of the results on these various dimensions. By outlining results from Hoxby's approach (as well as those in my opening report), my conclusion here does not depend upon whether Hoxby or Arcidiacono's model is ultimately deemed preferable.

In the sections below, I discuss, in turn, Hoxby's simulations of socioeconomic preferences, percentage plans, and a Census tract diversity plan. In each case, I explain how Arcidiacono expanded upon Hoxby's analysis and then I evaluate the results.

Because it is UNC's burden to show that there is not a *single* race-neutral alternative that can produce the educational benefits of diversity, I need not discuss every simulation Hoxby creates. In considering these various simulations, it is important to remember the heavy burden Hoxby faces: if a *single* race-neutral alternative can produce adequate results, race cannot be employed by UNC.¹⁷² Hoxby cannot carry that burden here.

¹⁷⁰ Fisher, 133 S. Ct. at 2420.

¹⁷¹ See Arcidiacono Rebuttal Report, Section 2.

¹⁷² Fisher, 133 S. Ct. at 2420 (examining whether "no workable race-neutral alternatives would produce the educational benefits of diversity").

A. Hoxby incorrectly concludes that socioeconomic preferences are not a viable race-neutral alternative at UNC.

Contrary to Hoxby's report, some of the socioeconomic preference simulations she outlines do produce satisfactory results.

In Hoxby's model with a socioeconomic preference, she constructs a three-part test of socioeconomic disadvantage, which looks at family socioeconomic status, neighborhood socioeconomic status, and high school socioeconomic status, using the NCERDC data for in-state public high school students.¹⁷³ Hoxby then simulates 20 different types of socioeconomic preference which varies the size of the set aside for disadvantaged students (18.75%, 25%, 31.25% and 37.5%) and the proportion of students who qualify as disadvantaged (bottom 5%, 10%, 15%, 20% and 25%).¹⁷⁴ Once the "disadvantaged stage" of the admissions process is finished, Hoxby then purports to "complete the class" with non-disadvantaged students.

Here, Hoxby makes two questionable decisions. First, Hoxby makes the highly unusual decision to simulate the admission of non-disadvantaged students who were actual UNC admits, even though race was a consideration in that admissions process.¹⁷⁵ In another unusual decision, Hoxby does not actually present the results of the entire class. Instead, she conducts a lottery of the non-disadvantaged students 100 times to see if it is ever possible to precisely match or exceed both the SAT and racial diversity levels for each racial subgroup.¹⁷⁶ The presentations in Exhibit 9 of Hoxby's report are particularly open to misinterpretation because she plots the percentage of underrepresented students and average SAT scores of the *disadvantaged portion* of the UNC high school public school population with the percentage of

¹⁷³ Hoxby Report, p. 58.

¹⁷⁴ Hoxby Report, p. 59.

¹⁷⁵ Hoxby Report, p. 64.

¹⁷⁶ Hoxby Report, p. 64.

underrepresented students and average SAT scores for the *entire* existing UNC public high school population (which includes non-disadvantaged underrepresented students)—a classic comparison of apples and oranges.

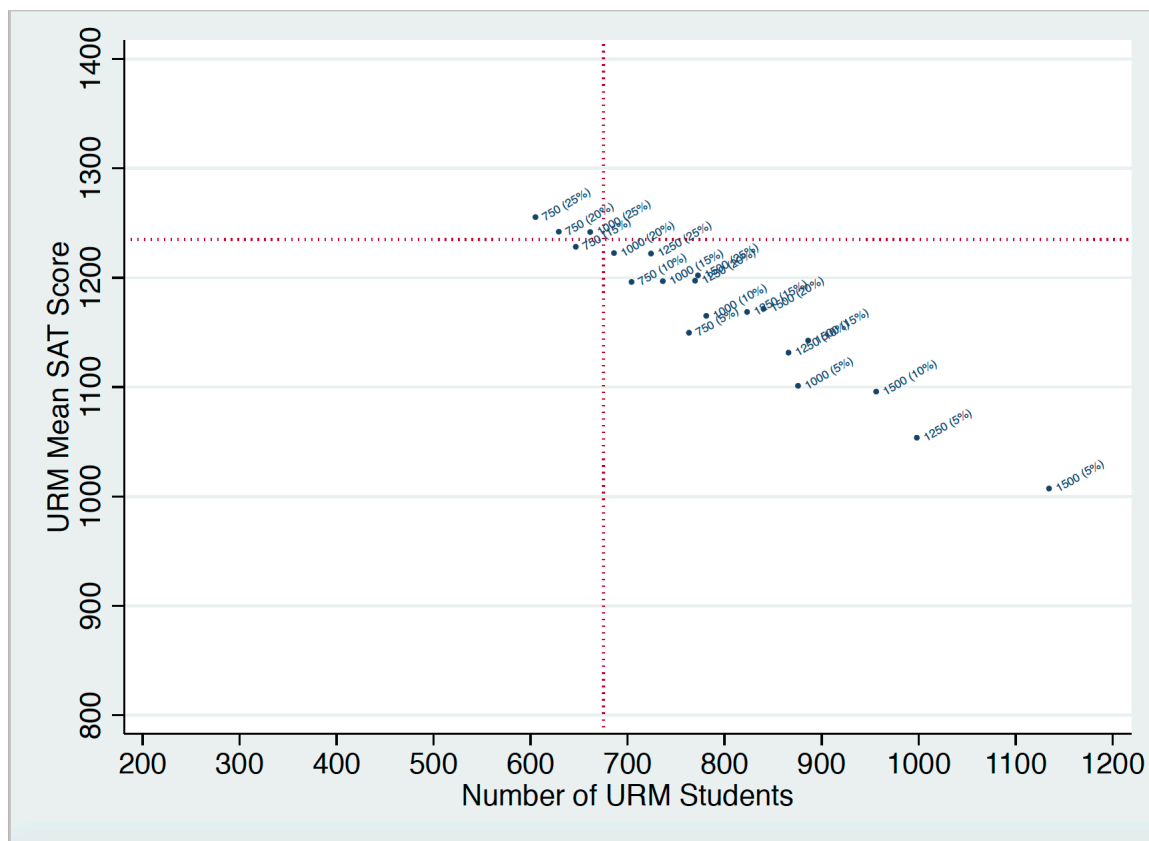
A more transparent approach would be to actually complete the class (with non-disadvantaged students). That is, instead of conducting a lottery to match existing results precisely, one should outline the average SAT and underrepresented minority shares that would, on average, result from completing the class with non-disadvantaged UNC admits alongside disadvantaged admits. I asked Arcidiacono to conduct such an analysis. The results are found in Appendix A and demonstrate a variety of workable alternatives. I don't discuss these results in the text, however, because simply completing Hoxby's exercise is not, after all, truly race-neutral, since race was used as a factor to admit the non-disadvantaged share of Hoxby's class.

Accordingly, I asked Arcidiacono to complete the class using a truly race-neutral method. For each of the 20 socioeconomic preference models Hoxby uses, Arcidiacono completed the class by taking the top students by an academic index (equally weighted to include SAT scores and high school grades) in the NCERDC data of in-state public high school students.¹⁷⁷ The results are presented below in two variations: (1) the truncated Hoxby-style presentation (plotting the number of underrepresented minorities and their SAT scores); and (2) a more complete presentation that includes all the relevant results—socioeconomic and geographic diversity (as well as racial diversity) and high school GPA (as well as SAT

¹⁷⁷ As noted earlier, the simulations in my opening report employ a variety of factors—SAT scores, grades, recommendations, extra-curricular activities and the like. Because Hoxby's model does not use applicants, simulations for race-neutral alternatives require the use of quantifiable metrics such as SAT scores. This approach to race-neutrality is similar to Hoxby's own modeling of the Allen Plan, where Hoxby takes students from each Census tract with the highest SAT scores and high school grades. See Hoxby Report, p. 85.

scores), and for the entire North Carolina public high school class, not just underrepresented minorities.¹⁷⁸

We begin with the truncated results that Hoxby displays in Exhibit 9, Figure 1. Unlike Hoxby, we present the average completed class (not just the disadvantaged stage), as compared with the status quo.



As becomes clear from the figure, there are several variations of the socioeconomic preference that produce racial diversity and academic preparedness of underrepresented

¹⁷⁸ In her analysis, Hoxby relies on two different data sets. She presents the status quo using UNC’s data on test scores and race. The simulations, in turn, rely on NCERDC test score and race data. As I discuss further below, this combination of data sets presents challenges because when one matches particular students in both data sets, they show, on average, higher SAT scores in the UNC data and UNC uses a different way of determining race that results in more students being identified as underrepresented minorities than in the NCERDC data set. Later in this report, I restrict the analysis to “matched” students – those both in the UNC applicant data set and the NCERDC data—so that one set of test scores and racial calculations can be used. For this analysis, however, I employed Hoxby’s two data sets, despite the complications, because it is important to model the effects of a socioeconomic preference plan that includes non-UNC applicants as well as UNC applicants.

minority students “about as well” as racial preferences do. The eight race-neutral options that are most closely clustered around the results achieved under the status quo (using racial preferences) include the 750/25%, 750/20%, 1000/25%, 750/15%, 1000/20%, 1250/25%, 750/10% and 1000/15% simulations. To illustrate the results, consider Hoxby’s plan to set aside 750 seats for socioeconomically disadvantaged students, where disadvantage includes the bottom 20% of the distribution. Under the 750/20% socioeconomic simulation, the share of underrepresented minority students admitted holds steady at 16.0% in the simulation, compared with 16.5% under the status quo.¹⁷⁹ The average SAT score of underrepresented minority students increases slightly from 1235 under the status quo to 1242 under the simulation.

Because the results in the figure above are limited to SAT scores and racial representation of underrepresented minorities, I asked Arcidiacono to calculate the more complete results of the simulation in three respects: (1) reporting SAT scores for the entire class, not just underrepresented minorities; (2) reporting the socioeconomic and geographic diversity of the class as well as racial diversity; and (3) and outlining academic preparedness as measured by high school GPA as well as average SAT scores. The full results of Hoxby’s 20 simulations are outlined in Appendix B. For illustrative purposes, I outline the full results for the socioeconomic preference setting aside 750 seats for disadvantaged students, including the least advantaged 20% of the population, in the text.

¹⁷⁹ In calculating the percentages, note that the status quo includes 161 missing students in the denominator, while the simulation does not.

UNC – Admitted Class of 2014-15 (North Carolina Public High School Students)			
Status Quo Race-Based Admissions		SES 750/20% completing class with high SAT and GPA students Race-Neutral Admissions	
White	66.7%	White	71.5%
African American	8.8%	African American	8.2%
Hispanic	5.9%	Hispanic	6.9%
Asian American	12.7%	Asian American	12.3%
American Indian	1.8%	American Indian	1.0%
Total Underrepresented Minority	16.5%	Total Underrepresented Minority	16.0%
Missing	3.9%	Missing	--
Family Low-Income (fee waiver)	12.5%	Family Low-Income (free and reduced price lunch)	20.4%
High School low income (% free & reduced-price lunch)	36.0%	High school low income (% free and reduced-price lunch)	37.6%
Number of NC Public High Schools represented	416	Number of NC Public High Schools represented	302
SAT score (percentile)	1330 (92 nd)	SAT score (percentile)	1303 (90 th)
HS GPA weighted	4.75	HS GPA weighted	4.63

Several observations about these results are in order:

First, the simulation shows the 750/20% socioeconomic preference produces comparable amounts of racial diversity and a greater degree of socioeconomic diversity

compared with UNC's baseline, in which racial preferences were employed. The proportion of underrepresented minority students in North Carolina public high schools admitted to UNC drops only marginally from 16.5% to 16.0%, and this very small change is surely the result of different methods for reporting race in the UNC and NCERDC data as opposed to any real decline. In the 2014-15 data sets, when comparing identical "matched" students who are in both the UNC and NCERDC data sets, of 915 African Americans in the UNC dataset, 11.8% are not coded African American in the NCERDC data. Likewise, 22.0% of Hispanics in the UNC data set are not coded as Hispanic in the NCERDC data. These discrepancies dwarf the 3% decline in underrepresented minority students in the simulation.

Meanwhile, socioeconomic diversity increases considerably under the socioeconomic preference, as the percentage of students from families identified as disadvantaged rises from 12.5% to 20.4%.¹⁸⁰ In terms of geographic diversity, the number of high schools represented declines from 416 to 302 under the simulation, though this appears related to data challenges as opposed to an actual decline.¹⁸¹

¹⁸⁰ This comparison is not perfect. Because Hoxby uses two separate data sets (as noted above), family level socioeconomic disadvantage uses two measures—students who received a fee waiver in the UNC data and students who are eligible for free and reduced-price lunch in the NCERDC data. UNC provides all students receiving free and reduced-price lunch with a fee waiver, but it is possible that some students who are eligible for free and reduced-price lunch do not apply for the fee waiver. To check for this possibility, I also asked Arcidiacono to measure socioeconomic status by the percentage of students in a high school receiving free and reduced-price lunch—a clean apple to apples comparison. On this measure, socioeconomic diversity also increases, from an average high school of 36.0% free and reduced-price lunch to 37.6%.

¹⁸¹ For technical reasons, the number of high schools in the socioeconomic simulation is likely to represent a significant undercount. In the exercise of "completing the class," one can normally take a weighted average of factors such as racial makeup, average SAT score, and the like to create a composite number for the socioeconomic preference admits and those admitted without a socioeconomic preference. In the case of the number of high schools, however, one cannot simply do a weighted average of the socioeconomic and non-socioeconomic portions of the class. In determining the number of high schools likely represented in the simulation, Arcidiacono instead took the number from the larger of the two portions of the class (socioeconomic admits or non-socioeconomic admits) and ignored high schools from the other set. As a result, the number of high schools reported in the simulation is likely to significantly undercount the number that in fact is represented.

Second, the simulation shows that Hoxby's concerns about changes in the academic preparedness of students under race-neutral alternatives are also unwarranted. Mean SAT scores for the class stay essentially steady—dropping slightly from the 92nd percentile (1330) to the 90th (1303).¹⁸² The average high school GPA of UNC admits declines from 4.75 to 4.63, but this decline is also related in part to data issues. About 20% of the students in the simulation have missing high school GPA. These missing students bias the GPA estimates downward because they are treated, in essence, as if they were excluded because of low GPA. Of course, if UNC wanted to increase average high school GPA, it could give relatively greater weight to that factor. The results of an 80% GPA/20% SAT weighting for completing the class is presented in Appendix C.

The 750/20% socioeconomic preference outlined above is but one of several illustrating that workable race-neutral strategies are available to UNC if it wishes to pursue them. The evidence overwhelmingly refutes Hoxby's claim that no viable race-neutral alternative exists.

B. Hoxby Incorrectly Rejects the Percentage Plan

For the percentage plan, Hoxby admits students from the top 7.95% of their high school class. Unlike Arcidiacono's model for the percentage plan which relied on holistic ratings of actual applicants, Hoxby looks solely at class rank among all public high school students in North Carolina, using the NCERDC data. She assumes, based on past experience,

¹⁸² For math and verbal composite SAT percentiles, see College Board, "SAT Percentile Ranks for Males, Females and Total Group: 2013 College-Bound Seniors," <http://media.collegeboard.com/digitalServices/pdf/research/SAT-Percentile-Ranks-Composite-CR-M-2013.pdf>.

that 75% will apply. After reporting admits, she then reports matriculates using a model that considers SAT scores and race and past patterns of yield for UNC.¹⁸³

Hoxby's method, however, is deeply problematic because she used UNC data to report the SAT scores and race of admits in her status quo results, but used NCERDC data on SAT scores and race to report the results of the simulated percentage plan. She adjusts NCERDC SAT scores to reflect that scores usually improve after the first taking of the exam. But even after SAT scores are adjusted by Hoxby's method, the data show that when one compares the SAT scores in NCERDC data of a given UNC applicant to her SAT scores in UNC data, the adjusted NCERDC SAT scores are still lower on average. There are also discrepancies in how UNC and NCERDC data sets record race. To make fair "apples to apples" comparisons of the UNC baseline with the percentage plan simulation, therefore, one needs to use a common set of scores and racial designations in both the baseline and the simulation. That is the possible to do only if one limits the analysis to UNC applicants who were also in the NCERDC data and then pick one of the two data sets to report SAT scores and race. Accordingly, I asked Arcidiacono to focus his analysis on those "matched" students who were in both the NCERDC data and UNC data. In order to match the number of students in the (smaller) baseline and percentage plan simulation, we had to simulate a smaller percentage plan – the top 5.0%.

In addition, because Hoxby failed to report key indicators of diversity and academic preparedness, I asked Arcidiacono to provide a more complete picture of the simulated results

¹⁸³ Hoxby Report, pp. 77-78.

by reporting high school GPA as well as SAT scores and socioeconomic and geographic diversity as well as racial diversity. The results are presented below.¹⁸⁴

UNC – Admitted Class of 2014-15 (North Carolina Public High School Students)			
Status Quo Race-Based Admissions		Top 5.0% Class Rank Race-Neutral Admissions	
White	70.1%	White	74.1%
African American	7.8%	African American	9.1%
Hispanic	4.8%	Hispanic	5.3%
Asian American	13.6%	Asian American	8.2%
Multiracial	3.2%	Multiracial	2.8%
Low Income (free & reduced price lunch)	7.9%	Low-Income (free & reduced price lunch)	11.3%
Number of NC Public High Schools represented	283	Number of NC Public High Schools represented	319
SAT score (percentile)	1327 (91 st /92 nd)	SAT score (percentile)	1284 (88 th /89 th)
HS GPA weighted	4.835	HS GPA weighted	4.840

The results show that the top 5% plan clearly yields higher levels of diversity in all critical dimensions. Racial and ethnic diversity increases, as the share of African-American students rises from 7.8% to 9.1% and the share of Hispanic students from 4.8% to 5.3%. Socioeconomic diversity increases, as the share of low income students rises from 7.9% to 11.3%. Meanwhile, geographic diversity increases as the number of North Carolina public high schools represented increases from 283 to 319.

¹⁸⁴ For SAT percentiles, see College Board, SAT Percentile Ranks for Males, Females, and Total Group: 2013 College-Bound Seniors, <http://media.collegeboard.com/digitalServices/pdf/research/SAT-Percentile-Ranks-Composite-CR-M-2013.pdf>.

Academic preparedness remains very strong. SAT scores decline just three percentile points, while high school weighted GPA actually improves slightly.

C. Hoxby Incorrectly Rejects Census Tract Plan

For the geographic residence model, Hoxby uses a variation of Danielle Allen's proposed admissions system that seeks diversity by Zip code plan, but uses Census tract data instead. Like Allen, Hoxby ranks geographic locales (in her case, Census tracts) by historical representation at UNC and prioritizes those with a low historical participation rate. Hoxby admits the top 21.51% of qualified students (those above an established academic threshold) from each North Carolina Census Tract, starting with those with the lowest historical representation.¹⁸⁵

Again, Hoxby only reports a narrow range of outcomes—racial diversity and SAT scores—and ignores socioeconomic and geographic diversity and high school GPA. This truncated presentation of results is inconsistent with UNC's own statements about the importance of several dimensions of diversity and about high school grades as a critical measure of academic preparedness.

But even looking at the Hoxby's narrow set of results based solely on racial diversity and SAT scores, Hoxby was incorrect to reject the Census tract approach. To begin with, the percentage of admitted underrepresented minority students falls just 2.2 percentage points below the status quo level achieved using racial preferences. (Enrolled levels decline just 2.6 percentage points.)¹⁸⁶ This is a smaller change than the 3 percentage point shift in the

¹⁸⁵ Hoxby Report, pp. 83-88.

¹⁸⁶ Hoxby Report, pp. 86-87.

percentage plan model that Hoxby described as having “relatively little effect on the university’s racial and ethnic diversity.”¹⁸⁷

In terms of academic outcomes, the test scores of matriculates stay steady at 1312, compared with 1314 under the status quo.¹⁸⁸ The scores of underrepresented minority students actually increase 15 points, from 1214 to 1229.¹⁸⁹

D. A new simulation (Simulation 6) using my earlier model and drawing upon concepts from Hoxby further demonstrates viable race-neutral alternatives.

Although Hoxby’s model is deficient for a number of reasons outlined above, she introduces a few valuable concepts that I asked Arcidiacono to incorporate into the model we used in the opening report for socioeconomic preferences.

1. Improvements upon my earlier socioeconomic preference model.

In the opening report’s Simulation 4, we provided a boost in admissions to students who came from (1) socioeconomically disadvantaged families (which included first generation college; receiving a fee waiver; and—for in-state students only—eligibility for free and reduced priced lunch); (2) socioeconomically disadvantaged neighborhoods (as measured by the bottom third by income); and (3) socioeconomically disadvantaged high schools (as measured by the bottom third by income for in-state only). We also turned off the admissions preference for a variety of factors, including legacy, early admissions, and race.

Hoxby’s report raises three important points that raise the possibility for tweaking my socioeconomic preference model by doing the following: (1) incorporating non-English

¹⁸⁷ Hoxby Report, p. 82. The 2.4 percentage point decline among African Americans could be addressed using a wealth variable. Kahlenberg Report, p. 74-75.

¹⁸⁸ Hoxby Report, p. 87.

¹⁸⁹ Hoxby Report, p. 88, Exhibit 13, Table 4.

speaking status as a socioeconomic status high school variable;¹⁹⁰ (2) incorporating single parent household as a socioeconomic status high school variable;¹⁹¹ and (3) turning off the preference provided to the children of faculty members.¹⁹²

Hoxby is right to highlight variables such as family and neighborhood level non-English speaking and family and neighborhood single parent family. These are highly relevant criteria to include in a socioeconomic preference given their relationship to academic outcomes in the academic literature.¹⁹³ These factors have a strong overlap with race and

¹⁹⁰ Hoxby Report, p. 53. Hoxby rejects the idea of including a particular language (e.g. Spanish) as a naked proxy for Hispanic students, but being from a non-English speaking household is a legitimate indicator of disadvantage that could apply to students of all races. It would include a recent white immigrant from Russia, and it would not include a 3rd generation Latino student who grew up in an English speaking household. See also Long Report, p. 31 (noting UT Austin considers language other than English as a factor in admissions).

¹⁹¹ Hoxby Report, pp. 49 and 51. See also Long Report, p. 31 (UT Austin considers single parent home in its admissions definition of socioeconomic disadvantage).

¹⁹² Hoxby Report, p. 16.

¹⁹³ *English Language Learners (ELLs)*: ELL students have lower levels of academic achievement than native English speakers. Being able to read adequately by the end of 3rd grade and having adequate math skills by the end of 8th grade are seen as key predictors of future success. According to the National Assessment of Educational Progress in 2013, English Language Learners lag behind non-English Language Learners by about 40 percentage points on meeting “basic or above” levels in both cases. Across the U.S., 72% of non-ELL students score at or above basic in reading in 4th grade, compared with 31% of ELL students. In 8th grade math, 75% of non-ELL students score at or above basic compared with 31% of ELL students. David Murphey, “The Academic Achievement of English Language Learners: Data for the U.S. and Each of the States,” *Child Trends*, December 2014, pp. 2-3, <http://www.childtrends.org/wp-content/uploads/2015/07/2014-62AcademicAchievementEnglish.pdf>.

Family structure. Children growing up in single parent families have lower academic achievement and attainment than children growing up in two parent households, on average. This is partly true because children growing up in a single parent household have lower incomes on average than households with two parents. According to the U.S. Census Bureau, for example, families headed by single mothers are much more likely to live in poverty than families with two parents. U.S. Census Bureau, *America’s Families and Living Arrangements: 2016*, Table C8, <http://www.census.gov/data/tables/2016/demo/families/cps-2016.html>. But single parent household data do not simply mimic income data, rendering the former data point superfluous. “Research has shown that FA children [children raised in father-absent homes] graduate from high school and attend college at a lower rate, perform worse on standardized tests, and are more likely to use drugs than children from FP [father-present] homes. . . . Even when controlling for economic and racial differences of the family, children from two-parent households outperform children from one-parent households across a variety of measures.” Mark S. Barajas, “Academic Achievement of Children in Single Parent Homes: A Critical Review,” *The Hilltop Review*, Vol. 5, Issue 1, December 2011, pp. 13-14 (citations omitted), <http://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=1044&context=hilltopreview>. Recent research also finds that growing up in a neighborhood with fathers present can have a positive impact on eventual adult income, particularly for African Americans. See Raj Chetty, Nathaniel Hendren, Maggie R. Jones, and Sonya R. Porter, “Race and Economic Opportunity in the United States: An Intergenerational Perspective,” Stanford University, March 2018, pp. 6-7.

ethnicity, so ignoring them in a socioeconomic affirmative action program unfairly penalizes Hispanic and African-American students in the aggregate.¹⁹⁴ And these factors have been employed in other contexts to denote socioeconomic disadvantage.¹⁹⁵

Likewise, Hoxby is correct to raise the issue of faculty child preference. I asked Arcidiacono to quantify the weight of that preference in the admissions process. He finds that the preference is substantial. Among in-state applicants, the faculty child preference is provided greater weight than that provided to legacy and fee waiver applicants.

In State Applicants (2016-2021)

Preference	Logit Estimate of Admission
African American	4.729
Hispanic	2.605
First Generation College	1.298
Faculty Child	0.608
Legacy	0.426
Early Applicant	0.353
Fee Waiver	0.200
Asian	0.176
Female	0.172

¹⁹⁴ Considering family structure in a socioeconomic affirmative action program would disproportionately benefit African-American applicants. In 2015, 66% of black children and 42% of Hispanic children were raised in single parent households, compared with 25% of white children. Annie E. Casey Foundation, “Children in single-parent families by race,” Kids Count Data Center (2018), <http://datacenter.kidscount.org/data/tables/107-children-in-single-parent-families-by#detailed/1/any/false/573,869,36,868,867/10,11,9,12,1,185,13/432,431>.

Considering language would disproportionately (though not exclusively) benefit Hispanic students. In 2016, 65.5 million Americans over age 5 did not speak English at home. Of these individuals, 40.5 million (62% spoke Spanish at home. U.S. Census Bureau, “Language spoken at home by ability to speak English for the population 5 years and older,” 2016 American Community Survey. <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>; https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_1YR_B16001&prodType=table

¹⁹⁵ See Richard D. Kahlenberg, “School Integration in Practice: Lessons from Nine Districts,” Century Foundation, October 14, 2016 (describing the use of Census tract data involving median family income, adult educational attainment, and percentage of population that is non-English speaking among other factors, by Chicago and Dallas school districts), <http://tcf.org/content/report/school-integration-practice-lessons-nine-districts/>.

UNC provides his preference even though being a faculty child has nothing to do with individual merit. It also does so even though Arcidiacono finds that the vast majority (82%) of faculty children applicants are white or Asian and only 12% are African American or Hispanic.

For this rebuttal report, I asked Arcidiacono to conduct new simulations that incorporate Hoxby's insights along these three dimensions.¹⁹⁶ The results of the new simulation (which is labeled Simulation 6), are presented below.¹⁹⁷ (For the full results, see Appendix D.)¹⁹⁸

¹⁹⁶ In addition, Arcidiacono incorporates changes in his model that he describes in his rebuttal report. See Arcidiacono Rebuttal Report, section 4.

¹⁹⁷ Simulations 1-5 were presented in Kahlenberg Report, pp. 65-79.

¹⁹⁸ For math and verbal composite SAT percentiles, see College Board, SAT Percentile Ranks for Males, Females, and Total Group: 2013 College-Bound Seniors. <http://media.collegeboard.com/digitalServices/pdf/research/SAT-Percentile-Ranks-Composite-CR-M-2013.pdf>.

2. Results of Simulation 6 demonstrate the viability of another race-neutral alternative.

UNC – Class of 2019 (In-State)			
Status Quo Race-Based Admissions		Simulation 6 Race-Neutral Admissions	
White	69.2%	White	68.4%
African American	8.7%	African American	9.2%
Hispanic	5.4%	Hispanic	5.3%
Asian American	11.0%	Asian American	11.7%
Other/Not Available	5.7%	Other/Not Available	--
Family Level Socioeconomic Disadvantage	24.8%	Family Level Socioeconomic Disadvantage	35.3%
SAT score (percentile)	1309 (90 th)	SAT score (percentile)	1290 (89 th)
HS GPA	4.67	HS GPA converted	4.65

A few observations are worth highlighting.

First, under Simulation 6, combined racial and ethnic diversity of underrepresented students actually increases from 14.1% under the status quo (8.7% African American and 5.4% Hispanic) to 14.5% (9.2% African American and 5.3%). As discussed elsewhere, the African-American and Hispanic representation could increase even further with the use of better socioeconomic data (wealth in particular).¹⁹⁹

Second, socioeconomic diversity, which the courts and UNC also value for promoting the educational benefits of diversity, increases dramatically under Simulation 6. The percentage of economically disadvantaged students rises more than 42% (from 24.8% to 35.3%). Given UNC's lopsided socioeconomic profile currently, the changes predicted by the simulation should significantly enhance the educational benefits of diversity.

¹⁹⁹ Kahlenberg Report, pp. 22-23.

Third, academic preparedness of students remains stellar under Simulation 6. The average composite SAT score (1290) is at the 89th percentile, just one percentile point different than under the current system employing racial preferences (1309 at the 90th percentile). Average high school GPA remains very high at 4.65 (compared to 4.67 under a system employing racial preferences). All in all, Simulation 6 would provide a viable path for UNC to maintain academic excellence while promoting higher levels of overall racial/ethnic and socioeconomic diversity.

3. Through the inclusion of additional socioeconomic factors and better recruitment of low-income students, the simulation could produce even greater racial, ethnic, and socioeconomic diversity.

As with the simulations outlined in my opening report, if I had been given access to additional socioeconomic information that UNC did not make available or if UNC had recruited more aggressively, I could have created a simulation with even higher levels of racial, ethnic, and socioeconomic diversity. Thus, it is likely that my Simulation 6 is *understating* UNC's ability to employ a viable race-neutral alternative.

More accurate income data. UNC has access to the precise family income of applicants, but I was limited to rough proxies, such as the availability of a fee waiver. These factors can mask considerable income variations. Given large income differences by race in the United States, the lack of precise income data blunted the potential racial dividend of class-based affirmative action.²⁰⁰

Wealth data. UNC has data on the wealth (net worth) of applicants, to which I was denied access. Wealth differences by race are much greater than income differences in the

²⁰⁰ Kahlenberg Report, p. 31.

United States; therefore, the use of wealth in admissions could therefore provide a larger racial dividend than other socioeconomic factors.²⁰¹

Better Recruitment. Finally, Simulation 6 understates its racial and socioeconomic potential because it is limited to the existing pool of applicants even though there is good reason to believe that UNC does a poor job of recruiting students from disadvantaged backgrounds.²⁰²

VI. Conclusion

The Fourteenth Amendment requires that institutions such as UNC bear “the ultimate burden of demonstrating, before turning to racial classifications, that available, workable, race-neutral alternatives do not suffice.”²⁰³ In the years leading up to the current litigation, UNC failed to take even elementary steps to make this showing. UNC’s experts, likewise, have failed to present credible evidence to deny that viable race-neutral strategies are available to it. Custom-made simulations using actual UNC applicant data demonstrate several viable race-neutral pathways by which UNC can maintain its strong academic reputation while doing an even better job than it does today of attaining the educational benefits of racial, ethnic, and socioeconomic diversity.

Dated: April 6, 2018

s/ Richard D. Kahlenberg

Richard D. Kahlenberg

²⁰¹ Kahlenberg Report, pp. 22-23.

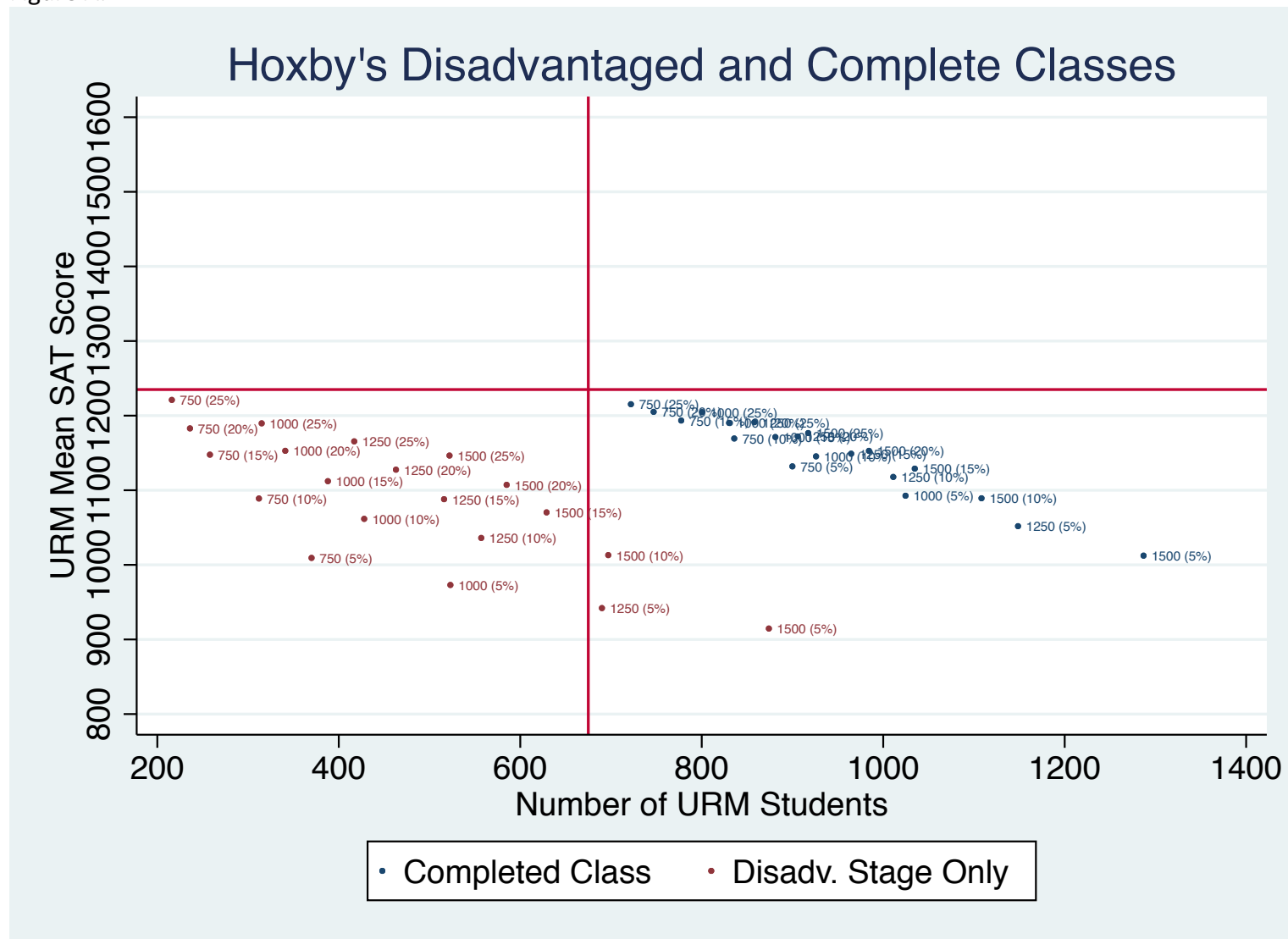
²⁰² See Section IV.E *supra*.

²⁰³ Fisher, 133 S. Ct. at 2420.

VII. Appendices

Appendix A

Figure A.1



Status Quo: UNC Admitted Public High School Students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_and_Reduced_Lunch	No_of_Schools
African American	360	8.81	1214	4.57	37.78	48.11	416
American Indian	74	1.81	1272	4.65	28.38	45.18	416
Asian American	519	12.7	1380	4.83	10.98	29.01	416
White	2727	66.74	1342	4.76	7.41	35.58	416
Hispanic	241	5.9	1255	4.64	36.51	41.05	416
HI/Pacific Islander	4	.1	1270	4.91	0	33.75	416
Missing	161	3.94	1378	4.82	4.35	29.05	416
Total	4086	100	1330	4.75	12.51	36.06	416
URM	675	16.52	1235	4.6	36.3	45.24	416

SES Simulated Class using 5 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	507	13.2	1132	4.24	50.86	51.49	405
American Indian	46	1.19	1174	4.37	27.67	53.64	405
Asian American	447	11.62	1364	4.88	11.04	29.14	405
White	2490	64.77	1290	4.65	18.62	39.36	405
Hispanic	347	9.02	1127	4.21	65.27	50.16	405
HI/Pacific Islander	7	.19	1130	.	30.79	43.03	405
Total	3843	100	1261	4.58	26.33	40.92	405
URM	900	23.41	1132	4.24	55.23	51.09	.

SES Simulated Class using 5 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	579	14.75	1092	4.05	58.91	53.09	401.28
American Indian	49	1.25	1143	4.22	34.19	55.01	401.28
Asian American	428	10.91	1358	4.86	12.25	29.58	401.28
White	2464	62.8	1273	4.57	22.26	40.08	401.28
Hispanic	397	10.11	1087	4.02	70.95	52.49	401.28
HI/Pacific Islander	7	.18	1124	.	32.99	43.49	401.28
Total	3924	100	1235	4.47	31.67	42.3	401.28
URM	1025	26.11	1093	4.05	62.39	52.95	.

SES Simulated Class using 5 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	654	16.66	1049	3.86	66.48	54.68	394.87
American Indian	53	1.36	1098	4	42.01	57.26	394.87
Asian American	400	10.19	1349	4.84	13.71	30.03	394.87
White	2369	60.37	1254	4.49	26.07	41.04	394.87
Hispanic	441	11.25	1050	3.85	76.13	54.08	394.87
HI/Pacific Islander	7	.17	1114	.	35.73	44.39	394.87
Total	3925	100	1205	4.34	37.41	43.89	394.87
URM	1149	29.27	1052	3.87	69.06	54.57	.

SES Simulated Class using 5 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	744	18.96	1006	3.68	73.06	56.2	386.44
American Indian	59	1.5	1054	3.75	43.28	60.44	386.44
Asian American	369	9.41	1343	4.81	15.1	30.45	386.44
White	2261	57.62	1237	4.42	29.61	41.87	386.44
Hispanic	484	12.35	1017	3.71	80.34	54.9	386.44
HI/Pacific Islander	6	.16	1111	.	37.09	44.16	386.44
Total	3923	100	1173	4.22	42.96	45.4	386.44
URM	1287	32.8	1012	3.7	74.44	55.91	.

SES Simulated Class using 10 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	460	12.03	1168	4.37	44.52	50.61	405
American Indian	45	1.17	1197	4.52	27.82	53.2	405
Asian American	452	11.82	1363	4.88	11.86	29.43	405
White	2531	66.16	1297	4.67	19.18	39.41	405
Hispanic	331	8.65	1167	4.36	62.46	48.62	405
HI/Pacific Islander	7	.17	1149	4.73	22.95	40.78	405
Total	3825	100	1277	4.63	25.21	40.54	405
URM	836	21.85	1169	4.37	50.72	49.96	.

SES Simulated Class using 10 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	513	13.06	1143	4.25	51.65	51.99	400.23
American Indian	45	1.15	1187	4.47	31.62	53.07	400.23
Asian American	437	11.13	1358	4.87	13.29	29.76	400.23
White	2555	65.1	1281	4.6	23.43	40.24	400.23
Hispanic	368	9.38	1143	4.24	67.94	50.11	400.23
HI/Pacific Islander	7	.18	1126	.	32.94	43.37	400.23
Total	3925	100	1257	4.55	30.28	41.69	400.23
URM	926	23.59	1145	4.25	57.15	51.3	.

SES Simulated Class using 10 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	556	14.18	1116	4.1	58.18	53.39	393
American Indian	47	1.19	1164	4.36	36	54.47	393
Asian American	407	10.38	1352	4.85	14.72	30.09	393
White	2499	63.68	1262	4.52	28.1	41.22	393
Hispanic	408	10.41	1115	4.09	73.44	51.57	393
HI/Pacific Islander	7	.17	1124	.	35.13	44.02	393
Total	3924	100	1234	4.45	35.8	43.03	393
URM	1011	25.77	1118	4.11	63.33	52.7	.

SES Simulated Class using 10 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	603	15.35	1089	3.98	63.87	54.7	385.48
American Indian	47	1.2	1144	4.17	40.22	55.88	385.48
Asian American	377	9.61	1343	4.81	16.61	30.83	385.48
White	2432	61.98	1242	4.44	32.47	42.28	385.48
Hispanic	459	11.69	1084	3.93	78.1	53.05	385.48
HI/Pacific Islander	6	.16	1119	.	36.92	44.33	385.48
Total	3924	100	1209	4.34	41.2	44.51	385.48
URM	1108	28.24	1089	3.96	68.76	54.07	.

SES Simulated Class using 15 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	422	11.08	1191	4.49	38.88	49.83	401
American Indian	50	1.3	1202	4.33	24.28	57.7	401
Asian American	451	11.84	1368	4.89	11.4	29.19	401
White	2571	67.54	1302	4.68	19.42	39.69	401
Hispanic	306	8.05	1195	4.45	58.14	47.44	401
HI/Pacific Islander	7	.19	1143	4.57	30.33	38.35	401
Total	3806	100	1288	4.66	23.83	40.43	401
URM	777	20.43	1193	4.46	45.54	49.39	.

SES Simulated Class using 15 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	479	12.2	1169	4.33	46.62	51.51	397.89
American Indian	51	1.3	1192	4.26	27.53	58.25	397.89
Asian American	441	11.25	1361	4.87	13.24	29.88	397.89
White	2594	66.1	1290	4.62	23	40.47	397.89
Hispanic	351	8.95	1171	4.31	63.57	49.61	397.89
HI/Pacific Islander	8	.2	1133	4.54	38.51	40.14	397.89
Total	3925	100	1271	4.58	28.51	41.67	397.89
URM	881	22.45	1171	4.32	52.27	51.15	.

SES Simulated Class using 15 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	520	13.26	1148	4.2	52.98	53.01	389.93
American Indian	55	1.4	1171	4.15	30.71	60.25	389.93
Asian American	415	10.58	1352	4.85	15.57	30.45	389.93
White	2535	64.62	1275	4.55	27.26	41.49	389.93
Hispanic	390	9.94	1147	4.2	69.22	51.23	389.93
HI/Pacific Islander	8	.22	1116	4.44	46.34	42.45	389.93
Total	3923	100	1252	4.5	33.69	43.08	389.93
URM	965	24.59	1149	4.2	58.27	52.7	.

SES Simulated Class using 15 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	558	14.22	1127	4.09	58.63	54.07	379.84
American Indian	58	1.48	1152	4.05	32.15	62.72	379.84
Asian American	384	9.8	1345	4.83	17.43	30.84	379.84
White	2496	63.62	1256	4.47	31.99	42.5	379.84
Hispanic	419	10.67	1128	4.12	72.42	52.39	379.84
HI/Pacific Islander	8	.21	1114	4.41	47.89	42.78	379.84
Total	3924	100	1231	4.41	38.7	44.36	379.84
URM	1035	26.37	1129	4.1	62.73	53.87	.

SES Simulated Class using 20 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	409	10.82	1200	4.5	36.98	49.46	396
American Indian	48	1.26	1215	4.38	22.5	56.8	396
Asian American	449	11.89	1370	4.9	11.08	29.11	396
White	2578	68.18	1308	4.68	18.41	40.05	396
Hispanic	290	7.67	1210	4.52	55.38	46.73	396
HI/Pacific Islander	7	.17	1153	4.76	21.56	40.95	396
Total	3781	100	1294	4.67	22.44	40.5	396
URM	747	19.76	1205	4.5	43.2	48.87	.

SES Simulated Class using 20 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	445	11.33	1188	4.41	41.71	50.78	391.67
American Indian	52	1.32	1202	4.29	26.95	58.29	391.67
Asian American	444	11.33	1364	4.88	12.45	29.78	391.67
White	2644	67.36	1296	4.63	22.01	41.07	391.67
Hispanic	333	8.5	1191	4.41	61.4	47.93	391.67
HI/Pacific Islander	6	.16	1150	4.73	23.41	41.39	391.67
Total	3925	100	1281	4.61	26.57	41.7	391.67
URM	830	21.15	1190	4.4	48.7	50.1	.

SES Simulated Class using 20 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	484	12.33	1170	4.27	48.15	52.4	385
American Indian	54	1.37	1189	4.18	29.72	60.39	385
Asian American	419	10.69	1356	4.86	14.8	30.49	385
White	2590	66.01	1283	4.57	25.76	42.23	385
Hispanic	368	9.39	1172	4.3	65.98	49.72	385
HI/Pacific Islander	8	.21	1125	4.46	36.66	46.12	385
Total	3923	100	1265	4.53	31.2	43.19	385
URM	906	23.09	1172	4.28	54.31	51.79	.

SES Simulated Class using 20 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	523	13.32	1151	4.14	53.86	53.57	375.92
American Indian	57	1.46	1172	4.08	31.84	62.25	375.92
Asian American	395	10.06	1346	4.83	17.45	31.33	375.92
White	2537	64.65	1268	4.5	30.11	43.21	375.92
Hispanic	405	10.31	1153	4.19	70.71	51.09	375.92
HI/Pacific Islander	8	.2	1118	4.41	39.92	46.47	375.92
Total	3924	100	1246	4.45	36.23	44.49	375.92
URM	984	25.09	1153	4.16	59.5	53.06	.

SES Simulated Class using 25 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	401	10.66	1207	4.52	36.44	48.56	395
American Indian	49	1.31	1221	4.26	21.57	58.35	395
Asian American	450	11.96	1371	4.9	10.77	29.02	395
White	2581	68.66	1312	4.7	17.29	40.24	395
Hispanic	272	7.24	1226	4.57	52.03	45.47	395
HI/Pacific Islander	6	.17	1156	4.77	21.04	40.97	395
Total	3759	100	1300	4.69	21.13	40.4	395
URM	722	19.21	1215	4.52	41.3	48.06	.

SES Simulated Class using 25 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	432	11.01	1200	4.44	40.42	49.91	389.23
American Indian	53	1.35	1213	4.27	23.15	59.83	389.23
Asian American	447	11.38	1367	4.88	12.08	29.43	389.23
White	2671	68.05	1302	4.65	20.59	41.28	389.23
Hispanic	316	8.04	1210	4.46	58.29	47.24	389.23
HI/Pacific Islander	7	.17	1153	4.75	22.79	41.41	389.23
Total	3924	100	1289	4.63	24.87	41.61	389.23
URM	800	20.39	1205	4.44	46.32	49.51	.

SES Simulated Class using 25 % cutoff and 1250 students

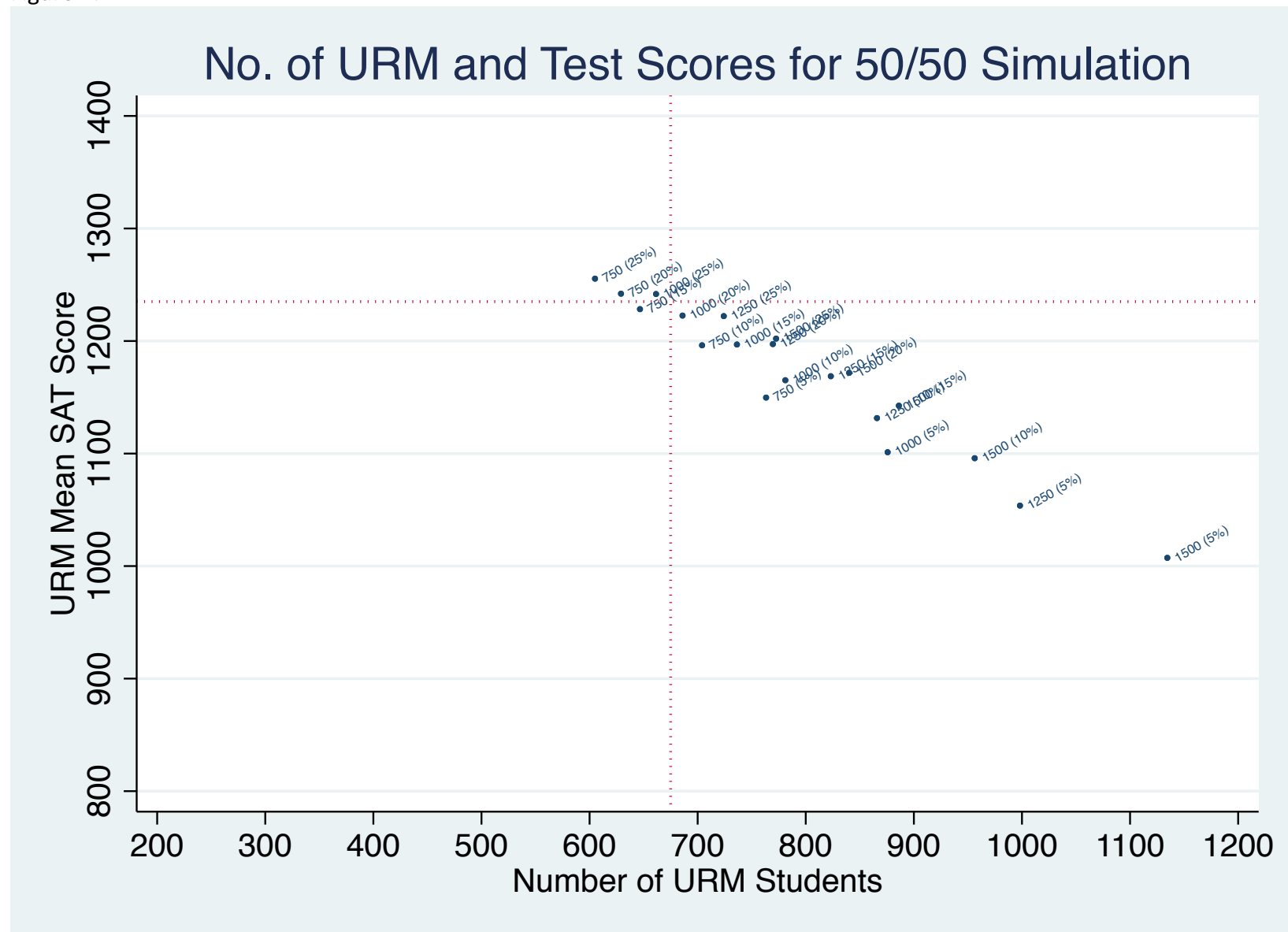
Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	457	11.65	1188	4.35	45.6	51.27	378.88
American Indian	58	1.47	1197	4.22	27.12	63.13	378.88
Asian American	418	10.66	1362	4.87	13.64	30.02	378.88
White	2642	67.32	1289	4.59	23.93	42.59	378.88
Hispanic	343	8.75	1195	4.38	63.99	48.62	378.88
HI/Pacific Islander	6	.16	1156	4.73	23.32	41.76	378.88
Total	3924	100	1275	4.57	28.91	43.09	378.88
URM	858	21.87	1191	4.35	51.71	51.01	.

SES Simulated Class using 25 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	482	12.28	1175	4.24	49.92	52.49	380
American Indian	60	1.53	1187	4.13	29.37	64.76	380
Asian American	392	9.98	1354	4.85	15.85	30.91	380
White	2608	66.45	1275	4.52	27.91	43.88	380
Hispanic	376	9.57	1177	4.26	67.13	50.13	380
HI/Pacific Islander	7	.18	1137	4.44	30.36	45.38	380
Total	3924	100	1260	4.49	33.19	44.56	380
URM	917	23.38	1177	4.24	55.62	52.33	.

Appendix B

Figure B.1



SAT 50% / GPA 50% Simulated Class using 5 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	401	10.21	1145	4.16	51.44	49.54	256
American Indian	33	.85	1206	4.17	34.39	44.09	256
Asian American	475	12.12	1363	4.79	10.11	27.39	256
White	2677	68.24	1291	4.6	17.32	36.61	256
Hispanic	329	8.4	1150	4.16	64.9	48.38	256
HI/Pacific Islander	7	.19	1231	.	16.65	37.16	256
Total	3922	100	1272	4.54	24.07	37.87	256
URM	763	19.46	1150	4.16	56.51	48.8	.

SAT 50% / GPA 50% Simulated Class using 5 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	467	11.89	1094	3.93	62.42	52.21	252
American Indian	37	.93	1160	4.02	42.75	48.15	252
Asian American	456	11.61	1366	4.79	11.22	27.61	252
White	2586	65.91	1283	4.55	21.01	37.5	252
Hispanic	372	9.49	1104	3.97	71.77	51.5	252
HI/Pacific Islander	6	.16	1230	.	21.12	38.88	252
Total	3924	100	1252	4.44	29.82	39.53	252
URM	876	22.32	1101	3.95	65.57	51.74	.

SAT 50% / GPA 50% Simulated Class using 5 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	545	13.89	1044	3.73	71.36	54.51	246
American Indian	42	1.07	1100	3.79	51.24	52.29	246
Asian American	434	11.06	1368	4.8	11.41	27.79	246
White	2486	63.35	1274	4.5	24.55	38.46	246
Hispanic	411	10.47	1062	3.79	76.83	53.57	246
HI/Pacific Islander	6	.16	1221	.	23.19	39.47	246
Total	3925	100	1228	4.34	35.36	41.24	246
URM	998	25.43	1054	3.76	72.77	54.03	.

SAT 50% / GPA 50% Simulated Class using 5 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	636	16.2	993	3.54	78.93	56.47	235
American Indian	47	1.19	1044	3.51	50.93	58.21	235
Asian American	409	10.43	1371	4.81	11.46	27.91	235
White	2374	60.52	1265	4.44	27.63	39.19	235
Hispanic	452	11.53	1024	3.65	81.56	54.65	235
HI/Pacific Islander	5	.14	1212	.	29.48	39.06	235
Total	3923	100	1202	4.23	40.75	42.82	235
URM	1134	28.92	1007	3.58	78.83	55.82	.

SAT 50% / GPA 50% Simulated Class using 10 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	356	9.07	1195	4.31	43.66	48.15	257
American Indian	33	.85	1235	4.35	36.98	43.22	257
Asian American	481	12.25	1362	4.79	11.13	27.53	257
White	2733	69.64	1297	4.63	17.9	36.73	257
Hispanic	315	8.02	1194	4.32	62.07	46.69	257
HI/Pacific Islander	7	.17	1262	4.64	7.46	34.29	257
Total	3924	100	1287	4.59	23.1	37.49	257
URM	704	17.94	1196	4.31	51.57	47.26	.

SAT 50% / GPA 50% Simulated Class using 10 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	402	10.25	1161	4.17	53.86	50.73	264
American Indian	34	.86	1219	4.31	42.26	44.63	264
Asian American	463	11.79	1365	4.8	12.16	27.88	264
White	2675	68.15	1290	4.58	22.28	37.77	264
Hispanic	345	8.79	1165	4.2	68.88	48.98	264
HI/Pacific Islander	6	.16	1236	.	21.24	38.7	264
Total	3925	100	1274	4.53	28.59	38.98	264
URM	781	19.9	1165	4.19	60	49.69	.

SAT 50% / GPA 50% Simulated Class using 10 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	448	11.43	1126	4	62.5	52.94	272
American Indian	36	.91	1187	4.21	47	47.85	272
Asian American	440	11.23	1369	4.81	12.56	28.04	272
White	2611	66.54	1280	4.52	26.69	38.83	272
Hispanic	382	9.73	1133	4.05	74.2	51.04	272
HI/Pacific Islander	6	.16	1231	.	22.96	39.26	272
Total	3924	100	1257	4.45	34	40.5	272
URM	866	22.07	1132	4.03	67.02	51.89	.

SAT 50% / GPA 50% Simulated Class using 10 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	493	12.57	1090	3.86	69.66	54.68	280
American Indian	36	.91	1160	3.97	50.6	50.55	280
Asian American	419	10.67	1370	4.81	13.06	28.31	280
White	2544	64.83	1269	4.46	30.65	39.82	280
Hispanic	427	10.89	1097	3.88	79.6	52.74	280
HI/Pacific Islander	5	.14	1227	.	28.86	38.61	280
Total	3924	100	1237	4.36	39.19	41.96	280
URM	956	24.37	1096	3.87	73.39	53.66	.

SAT 50% / GPA 50% Simulated Class using 15 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	320	8.16	1229	4.46	36.04	46.9	285
American Indian	39	1	1238	4.14	30.43	51.58	285
Asian American	479	12.22	1366	4.8	10.69	27.28	285
White	2790	71.11	1302	4.63	18.22	37.11	285
Hispanic	287	7.32	1227	4.41	57.03	45	285
HI/Pacific Islander	7	.19	1245	4.49	16.29	32.52	285
Total	3923	100	1297	4.61	21.72	37.42	285
URM	647	16.48	1228	4.42	45.03	46.34	.

SAT 50% / GPA 50% Simulated Class using 15 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	369	9.4	1195	4.27	47.83	50	312
American Indian	40	1.03	1222	4.08	34.77	53.73	312
Asian American	465	11.85	1368	4.81	12.16	27.82	312
White	2716	69.21	1298	4.6	22	38.18	312
Hispanic	327	8.33	1196	4.28	64.55	48.5	312
HI/Pacific Islander	7	.18	1229	4.48	29.19	35.72	312
Total	3925	100	1287	4.56	26.95	39.08	312
URM	736	18.76	1197	4.26	54.54	49.54	.

SAT 50% / GPA 50% Simulated Class using 15 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	413	10.53	1166	4.12	56.48	52.45	327
American Indian	45	1.14	1193	3.99	37.77	56.92	327
Asian American	448	11.41	1370	4.81	13.57	28.19	327
White	2644	67.4	1292	4.55	26.09	39.21	327
Hispanic	365	9.31	1169	4.17	69.71	50.5	327
HI/Pacific Islander	8	.2	1202	4.4	37.29	38.76	327
Total	3923	100	1275	4.49	32.08	40.6	327
URM	823	20.98	1169	4.14	61.33	51.83	.

SAT 50% / GPA 50% Simulated Class using 15 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	452	11.51	1137	3.99	64.05	54.08	339
American Indian	47	1.2	1167	3.88	37.53	61.34	339
Asian American	425	10.83	1372	4.82	14.03	28.33	339
White	2606	66.4	1281	4.49	30.45	40.2	339
Hispanic	387	9.87	1146	4.09	73.73	52.13	339
HI/Pacific Islander	7	.18	1195	4.36	44.25	38.16	339
Total	3924	100	1259	4.42	36.92	41.94	339
URM	886	22.58	1143	4.03	66.87	53.62	.

SAT 50% / GPA 50% Simulated Class using 20 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	321	8.19	1238	4.48	34.02	46.88	302
American Indian	37	.96	1255	4.19	28.68	50.06	302
Asian American	481	12.26	1367	4.81	10.77	27.3	302
White	2808	71.54	1306	4.63	17.15	37.45	302
Hispanic	270	6.89	1245	4.47	53.88	44.02	302
HI/Pacific Islander	7	.17	1267	4.67	6.12	34.38	255
Total	3925	100	1303	4.63	20.37	37.55	302
URM	629	16.03	1242	4.46	42.23	45.84	.

SAT 50% / GPA 50% Simulated Class using 20 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	338	8.61	1224	4.37	41.43	49.14	327
American Indian	41	1.04	1235	4.12	34.09	53.75	327
Asian American	466	11.87	1370	4.82	11.61	27.78	327
White	2767	70.51	1302	4.61	21.06	38.8	327
Hispanic	307	7.83	1220	4.37	61.86	46.43	327
HI/Pacific Islander	6	.14	1276	4.69	8.91	35.92	250
Total	3925	100	1296	4.59	25	39.13	327
URM	686	17.48	1223	4.36	50.14	48.2	.

SAT 50% / GPA 50% Simulated Class using 20 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	381	9.72	1196	4.21	50.51	51.83	347
American Indian	44	1.11	1217	4.02	36.63	56.78	347
Asian American	449	11.44	1372	4.82	13.14	28.48	347
White	2697	68.74	1298	4.56	24.78	40.05	347
Hispanic	345	8.79	1196	4.27	66.3	48.88	347
HI/Pacific Islander	8	.2	1213	4.42	26.84	42.2	347
Total	3923	100	1286	4.53	29.73	40.84	347
URM	770	19.62	1197	4.22	56.8	50.79	.

SAT 50% / GPA 50% Simulated Class using 20 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	418	10.65	1169	4.05	58.37	53.62	358
American Indian	46	1.17	1193	3.9	37.49	60.76	358
Asian American	430	10.96	1372	4.82	14.46	28.95	358
White	2647	67.45	1290	4.51	28.6	41.06	358
Hispanic	376	9.58	1172	4.16	72.15	50.85	358
HI/Pacific Islander	7	.18	1206	4.37	32.71	42.34	358
Total	3924	100	1274	4.46	34.51	42.24	358
URM	840	21.41	1172	4.09	63.39	52.77	.

SAT 50% / GPA 50% Simulated Class using 25 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	314	7.99	1248	4.5	33.46	45.68	309
American Indian	41	1.05	1262	4.12	23.5	55.9	309
Asian American	483	12.31	1368	4.81	10.23	27.27	309
White	2830	72.1	1309	4.65	16.02	37.54	309
Hispanic	250	6.38	1264	4.53	48.96	42.52	309
HI/Pacific Islander	7	.17	1270	4.68	5.56	34.39	253
Total	3925	100	1308	4.64	18.86	37.43	309
URM	605	15.42	1255	4.49	39.19	45.07	.

SAT 50% / GPA 50% Simulated Class using 25 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	327	8.33	1240	4.41	39.92	47.85	339
American Indian	45	1.14	1245	4.15	27.26	58.68	339
Asian American	468	11.92	1372	4.82	11.44	27.61	339
White	2789	71.08	1307	4.62	19.74	38.97	339
Hispanic	290	7.38	1243	4.42	57.23	45.29	339
HI/Pacific Islander	6	.14	1281	4.71	8.41	35.81	248
Total	3924	100	1304	4.6	23.27	39.04	339
URM	661	16.86	1242	4.39	46.65	47.46	.

SAT 50% / GPA 50% Simulated Class using 25 % cutoff and 1250 students

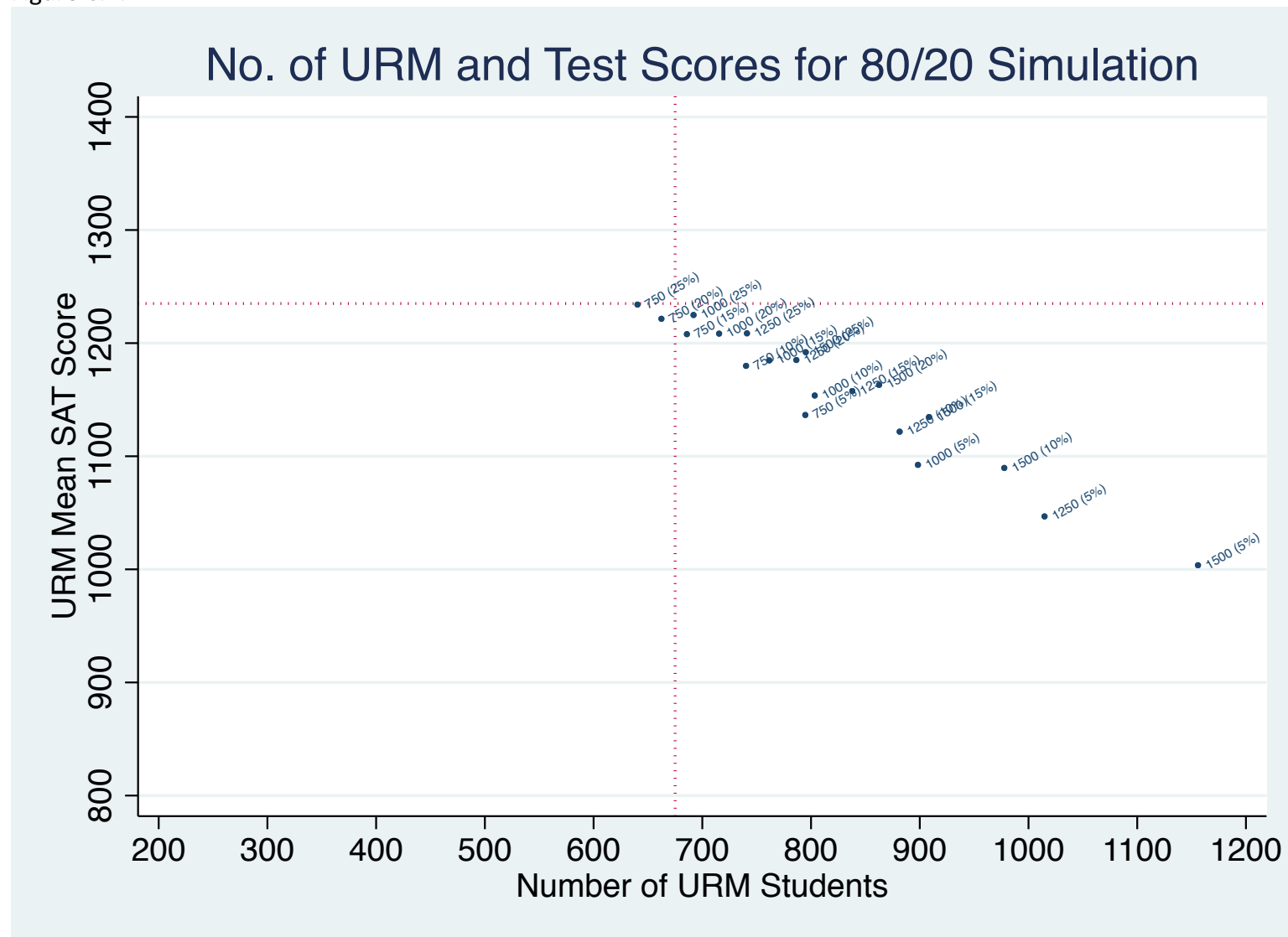
Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	354	9.03	1222	4.3	47.1	49.99	366
American Indian	50	1.28	1223	4.13	31.18	62.37	366
Asian American	449	11.44	1376	4.83	12.16	28.03	366
White	2745	69.96	1303	4.59	23.05	40.43	366
Hispanic	320	8.15	1222	4.35	63.94	47.39	366
HI/Pacific Islander	6	.14	1278	4.69	9.38	36.34	242
Total	3924	100	1296	4.56	27.39	40.72	366
URM	724	18.45	1222	4.31	53.43	49.7	.

SAT 50% / GPA 50% Simulated Class using 25 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	374	9.54	1202	4.17	54.26	52.06	380
American Indian	52	1.33	1208	4.04	31.78	65.87	380
Asian American	428	10.9	1378	4.84	13.06	28.67	380
White	2717	69.25	1296	4.53	26.64	41.78	380
Hispanic	346	8.81	1202	4.23	67.77	49.51	380
HI/Pacific Islander	6	.16	1232	4.38	22.81	40.57	380
Total	3924	100	1286	4.5	31.49	42.33	380
URM	773	19.69	1202	4.19	58.79	51.85	.

Appendix C

Figure C.1.



SAT 20% / GPA 80% Simulated Class using 5 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	428	10.91	1132	4.2	51.54	50.71	264
American Indian	32	.81	1200	4.17	36.21	45.64	264
Asian American	460	11.72	1355	4.82	10.69	27.96	264
White	2661	67.83	1280	4.62	17.46	37.3	264
Hispanic	335	8.54	1136	4.19	64.81	49.16	264
HI/Pacific Islander	7	.19	1230	.	16.91	37.44	264
Total	3922	100	1259	4.56	24.58	38.75	264
URM	795	20.26	1136	4.19	56.52	49.85	.

SAT 20% / GPA 80% Simulated Class using 5 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	484	12.32	1087	3.97	61.48	53.06	259
American Indian	35	.9	1154	4.01	44.54	48.64	259
Asian American	437	11.14	1358	4.83	11.24	28.52	259
White	2582	65.8	1271	4.57	21.15	38.33	259
Hispanic	380	9.67	1094	4	70.94	51.83	259
HI/Pacific Islander	6	.16	1228	.	21.29	39.17	259
Total	3924	100	1239	4.46	30.04	40.45	259
URM	898	22.89	1092	3.98	64.82	52.36	.

SAT 20% / GPA 80% Simulated Class using 5 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	558	14.22	1039	3.77	69.89	55.33	253
American Indian	41	1.05	1095	3.78	51.82	52.78	253
Asian American	413	10.53	1359	4.84	11.74	28.64	253
White	2490	63.45	1260	4.52	24.79	39.23	253
Hispanic	415	10.58	1053	3.82	77.74	53.93	253
HI/Pacific Islander	6	.16	1218	.	23.37	39.72	253
Total	3925	100	1216	4.36	35.71	42.1	253
URM	1015	25.86	1047	3.79	72.37	54.65	.

SAT 20% / GPA 80% Simulated Class using 5 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	648	16.52	991	3.57	77.57	57.08	244
American Indian	46	1.18	1033	3.51	53.48	59.21	244
Asian American	391	9.96	1362	4.84	12	28.77	244
White	2371	60.44	1250	4.47	28.04	40.05	244
Hispanic	462	11.77	1019	3.68	81.85	54.79	244
HI/Pacific Islander	5	.14	1209	.	29.68	39.33	244
Total	3923	100	1189	4.25	41.26	43.7	244
URM	1156	29.46	1004	3.61	78.32	56.25	.

SAT 20% / GPA 80% Simulated Class using 10 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	386	9.85	1177	4.34	44.37	49.5	264
American Indian	32	.82	1230	4.36	38.98	44.56	264
Asian American	465	11.84	1355	4.82	11.57	28.14	264
White	2713	69.13	1287	4.64	18	37.41	264
Hispanic	322	8.2	1178	4.34	61.82	47.5	264
HI/Pacific Islander	7	.17	1260	4.65	7.85	34.54	264
Total	3924	100	1275	4.61	23.58	38.38	264
URM	740	18.86	1180	4.34	51.71	48.42	.

SAT 20% / GPA 80% Simulated Class using 10 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	418	10.66	1150	4.2	53.37	51.67	264
American Indian	32	.83	1215	4.31	44.22	44.9	264
Asian American	443	11.29	1358	4.83	12.26	28.77	264
White	2672	68.07	1278	4.6	22.38	38.54	264
Hispanic	353	8.98	1153	4.23	67.74	49.25	264
HI/Pacific Islander	6	.16	1234	.	21.52	38.95	264
Total	3925	100	1261	4.55	28.79	39.85	264
URM	803	20.47	1154	4.21	59.31	50.34	.

SAT 20% / GPA 80% Simulated Class using 10 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	463	11.81	1117	4.03	61.14	53.91	272
American Indian	35	.9	1182	4.21	47.63	48.38	272
Asian American	420	10.7	1360	4.85	12.94	28.89	272
White	2616	66.67	1267	4.54	26.9	39.55	272
Hispanic	383	9.76	1121	4.07	75.28	51.36	272
HI/Pacific Islander	6	.16	1228	.	23.14	39.5	272
Total	3924	100	1244	4.47	34.35	41.34	272
URM	881	22.47	1122	4.06	66.74	52.58	.

SAT 20% / GPA 80% Simulated Class using 10 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	506	12.89	1085	3.89	68.15	55.49	280
American Indian	35	.9	1147	3.98	53.94	51.79	280
Asian American	401	10.23	1362	4.84	13.62	29.23	280
White	2540	64.72	1255	4.48	30.97	40.58	280
Hispanic	437	11.12	1090	3.91	79.96	52.93	280
HI/Pacific Islander	5	.14	1224	.	29.06	38.89	280
Total	3924	100	1224	4.38	39.64	42.82	280
URM	978	24.91	1090	3.9	72.91	54.22	.

SAT 20% / GPA 80% Simulated Class using 15 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	350	8.91	1206	4.48	37.59	48.53	285
American Indian	38	.97	1233	4.14	31.95	52.97	285
Asian American	464	11.83	1360	4.84	11.1	27.89	285
White	2766	70.5	1291	4.65	18.34	37.78	285
Hispanic	298	7.6	1206	4.44	57.45	46.27	285
HI/Pacific Islander	7	.19	1244	4.49	16.66	32.74	285
Total	3923	100	1285	4.63	22.3	38.35	285
URM	686	17.48	1208	4.45	45.91	47.79	.

SAT 20% / GPA 80% Simulated Class using 15 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	386	9.83	1183	4.3	47.42	50.99	312
American Indian	39	1	1219	4.07	36.17	54.24	312
Asian American	447	11.38	1362	4.84	12.46	28.71	312
White	2709	69.03	1287	4.61	22.13	38.87	312
Hispanic	337	8.58	1183	4.3	63.37	48.79	312
HI/Pacific Islander	7	.18	1228	4.49	29.47	35.93	312
Total	3925	100	1275	4.58	27.21	39.91	312
URM	762	19.41	1185	4.29	53.89	50.18	.

SAT 20% / GPA 80% Simulated Class using 15 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	430	10.95	1156	4.16	55.26	53.55	327
American Indian	44	1.13	1189	3.99	38.27	57.56	327
Asian American	429	10.94	1360	4.84	14.16	29.1	327
White	2648	67.5	1279	4.57	26.27	39.93	327
Hispanic	364	9.28	1156	4.19	71.01	51.01	327
HI/Pacific Islander	8	.2	1199	4.4	37.58	39	327
Total	3923	100	1262	4.51	32.43	41.46	327
URM	838	21.36	1158	4.16	61.2	52.66	.

SAT 20% / GPA 80% Simulated Class using 15 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	465	11.85	1130	4.02	62.63	55	339
American Indian	47	1.19	1157	3.88	39.94	62.39	339
Asian American	408	10.39	1363	4.85	14.63	29.23	339
White	2601	66.28	1267	4.51	30.77	40.96	339
Hispanic	397	10.11	1137	4.12	74.25	52.3	339
HI/Pacific Islander	7	.18	1192	4.36	44.49	38.39	339
Total	3924	100	1246	4.44	37.4	42.8	339
URM	909	23.16	1135	4.06	66.54	54.2	.

SAT 20% / GPA 80% Simulated Class using 20 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	343	8.75	1218	4.5	35.2	48.27	302
American Indian	36	.92	1251	4.2	29.98	51.55	302
Asian American	466	11.87	1361	4.84	10.93	27.82	302
White	2790	71.08	1296	4.65	17.33	38.07	302
Hispanic	283	7.21	1222	4.5	54.73	45.69	302
HI/Pacific Islander	7	.17	1265	4.67	6.34	34.65	264
Total	3925	100	1291	4.65	20.93	38.41	302
URM	662	16.88	1222	4.48	43.26	47.35	.

SAT 20% / GPA 80% Simulated Class using 20 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	354	9.03	1209	4.4	41.07	50.21	327
American Indian	41	1.03	1232	4.12	34.68	54.28	327
Asian American	449	11.45	1364	4.85	12.07	28.69	327
White	2754	70.18	1291	4.62	21.23	39.51	327
Hispanic	321	8.17	1204	4.4	61.22	47	327
HI/Pacific Islander	6	.14	1274	4.69	9.2	36.21	258
Total	3925	100	1284	4.61	25.36	40	327
URM	715	18.23	1208	4.38	49.74	49	.

SAT 20% / GPA 80% Simulated Class using 20 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	399	10.17	1184	4.24	49.5	53.01	347
American Indian	43	1.09	1213	4.02	37.23	57.48	347
Asian American	433	11.04	1362	4.85	13.85	29.34	347
White	2696	68.72	1285	4.58	24.83	40.73	347
Hispanic	344	8.78	1183	4.29	67.8	49.49	347
HI/Pacific Islander	8	.2	1210	4.43	27.1	42.47	347
Total	3923	100	1274	4.55	30.04	41.68	347
URM	786	20.05	1185	4.25	56.85	51.71	.

SAT 20% / GPA 80% Simulated Class using 20 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	432	11.02	1161	4.08	56.89	54.68	358
American Indian	46	1.17	1184	3.91	39.96	61.79	358
Asian American	413	10.52	1364	4.85	15.06	29.87	358
White	2642	67.32	1277	4.53	28.96	41.72	358
Hispanic	384	9.8	1163	4.18	72.4	50.92	358
HI/Pacific Islander	7	.18	1203	4.37	32.88	42.56	358
Total	3924	100	1261	4.48	34.97	43.04	358
URM	863	21.98	1163	4.12	62.9	53.38	.

SAT 20% / GPA 80% Simulated Class using 25 % cutoff and 750 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	339	8.63	1226	4.52	34.99	47.14	309
American Indian	40	1.01	1259	4.13	24.52	57.44	309
Asian American	472	12.03	1361	4.84	10.5	27.9	309
White	2806	71.49	1300	4.67	16.26	38.13	309
Hispanic	262	6.67	1241	4.56	50.69	44.01	309
HI/Pacific Islander	7	.17	1268	4.68	5.78	34.65	263
Total	3925	100	1296	4.66	19.55	38.26	309
URM	640	16.32	1234	4.51	40.76	46.5	.

SAT 20% / GPA 80% Simulated Class using 25 % cutoff and 1000 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	344	8.78	1223	4.43	40.38	49.11	339
American Indian	44	1.13	1243	4.15	27.74	59.23	339
Asian American	452	11.51	1365	4.85	11.89	28.51	339
White	2775	70.72	1296	4.63	19.98	39.7	339
Hispanic	303	7.72	1224	4.45	58.4	46.25	339
HI/Pacific Islander	6	.14	1278	4.71	8.69	36.12	256
Total	3924	100	1292	4.62	23.88	39.96	339
URM	692	17.63	1225	4.42	47.47	48.5	.

SAT 20% / GPA 80% Simulated Class using 25 % cutoff and 1250 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	371	9.45	1207	4.33	46.58	51.36	366
American Indian	50	1.26	1220	4.12	31.62	63.08	366
Asian American	432	11.02	1367	4.86	12.86	28.9	366
White	2745	69.96	1291	4.6	23.09	41.1	366
Hispanic	320	8.17	1208	4.37	65.67	48.27	366
HI/Pacific Islander	6	.14	1276	4.7	9.51	36.66	249
Total	3924	100	1283	4.58	27.75	41.58	366
URM	741	18.88	1209	4.33	53.83	50.81	.

SAT 20% / GPA 80% Simulated Class using 25 % cutoff and 1500 students

Ethnicity	No_of_Students	Percent_of_Class	Avg_SAT	Avg_GPA	Fee_Waiver	Pct_Free_or_Reduced_Lunch	No_of_Schools
African American	390	9.95	1191	4.21	52.56	53.33	380
American Indian	52	1.32	1200	4.05	34	66.94	380
Asian American	410	10.46	1370	4.87	13.62	29.59	380
White	2712	69.12	1283	4.55	26.88	42.4	380
Hispanic	353	8.99	1192	4.25	68.66	49.76	380
HI/Pacific Islander	6	.16	1230	4.38	23	40.87	380
Total	3924	100	1273	4.52	31.89	43.13	380
URM	795	20.26	1192	4.22	58.5	52.64	.

Appendix D

Table D.1: UNC Race-Neutral Modeling Results for In-State Admissions

	Number of admits							Share of admits						
	2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
Status Quo														
White	3,043	3,022	3,160	3,064	3,323	3,381	18,993	71.8%	68.6%	69.3%	69.2%	67.4%	66.8%	68.8%
Black	389	383	414	383	433	419	2,421	9.2%	8.7%	9.1%	8.7%	8.8%	8.3%	8.8%
Hispanic	196	229	251	241	261	300	1,478	4.6%	5.2%	5.5%	5.4%	5.3%	5.9%	5.4%
Asian	464	470	545	488	604	658	3,229	11.0%	10.7%	11.9%	11.0%	12.3%	13.0%	11.7%
Other/Not available	144	299	191	251	309	305	1,499	3.4%	6.8%	4.2%	5.7%	6.3%	6.0%	5.4%
Total	4,236	4,403	4,561	4,427	4,930	5,063	27,620							
Academic variables														
GPA (mean)	4.57	4.61	4.64	4.67	4.70	4.76								
SAT (mean)	1,302	1,308	1,321	1,309	1,317	1,316								
Top decile (%)	13.4%	16.2%	20.7%	19.1%	24.4%	28.5%								
Top two deciles (%)	30.9%	35.3%	40.3%	39.4%	43.8%	50.0%								
SES variables														
Family level (%)														
Advantaged	76.2%	76.5%	76.7%	75.2%	79.0%	79.4%								
Disadvantaged	23.8%	23.6%	23.3%	24.8%	21.0%	20.6%								
Neighborhood level (%)														
Advantaged	81.2%	79.9%	82.1%	80.3%	82.2%	83.2%								
Disadvantaged	18.8%	20.1%	17.9%	19.7%	17.8%	16.8%								
School level (%)														
Advantaged	84.1%	85.5%	85.3%	78.8%	-----	-----								
Disadvantaged	15.9%	14.5%	14.7%	21.2%	-----	-----								

Sources: MainDataA.csv, MainDataB.csv, MainDataC.csv, MainDataD.csv, UNC0379828.xlsx, UNC0379829.xlsx.

Table D.1 (continued): UNC Race-Neutral Modeling Results for In-State Admissions

	Number of admits							Share of admits						
	2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
Simulation 6: Socioeconomic Preference (Simulation 4 with Socioeconomic Status of High School to Include Percent Single Parent Household and Percent Non-English Speaking, and Faculty Child Preference Turned Off)														
White	3,035	3,002	3,149	3,029	-----	-----	12,215	71.6%	68.2%	69.0%	68.4%	-----	-----	69.3%
Black	410	440	428	408	-----	-----	1,686	9.7%	10.0%	9.4%	9.2%	-----	-----	9.6%
Hispanic	201	199	235	234	-----	-----	869	4.7%	4.5%	5.2%	5.3%	-----	-----	4.9%
Asian	466	481	574	518	-----	-----	2,039	11.0%	10.9%	12.6%	11.7%	-----	-----	11.6%
Other/Not available	122	280	174	237	-----	-----	813	2.9%	6.4%	3.8%	5.4%	-----	-----	4.6%
Total	4,234	4,402	4,560	4,426										
Academic variables														
GPA (mean)	4.54	4.59	4.62	4.65										
SAT (mean)	1,276	1,285	1,302	1,290										
Top decile (%)	12.9%	15.7%	20.2%	18.6%										
Top two deciles (%)	28.7%	33.1%	38.3%	37.0%										
SES variables														
Family level (%)														
Advantaged	64.4%	66.3%	66.4%	64.7%										
Disadvantaged	35.6%	33.7%	33.6%	35.3%										
Neighborhood level (%)														
Advantaged	71.2%	71.9%	73.3%	72.0%										
Disadvantaged	28.8%	28.1%	26.7%	28.0%										
School level (%)														
Advantaged	85.0%	87.0%	87.0%	82.4%										
Disadvantaged	15.0%	13.0%	13.0%	17.6%										

Sources: MainDataA.csv, MainDataB.csv, MainDataC.csv, MainDataD.csv, UNC0379828.xlsx, UNC0379829.xlsx.

Table D.2: Percentage of Admits Economically Disadvantaged, by Race, Year, and Race-Neutral Simulation Model (In-State Applicants)

	Percentage Economically Disadvantaged						
	2016	2017	2018	2019	2020	2021	Total
Status Quo							
White	17.2%	17.8%	17.1%	18.4%	14.4%	14.3%	16.5%
Black	51.7%	53.3%	52.7%	54.8%	53.8%	54.9%	53.5%
Hispanic	45.9%	44.1%	41.0%	51.9%	47.9%	51.0%	47.2%
Asian	32.1%	30.0%	29.9%	29.1%	23.8%	20.4%	27.0%
Other/Not available	31.3%	17.7%	21.5%	22.3%	18.1%	13.8%	19.5%
Simulation 6: Socioeconomic Preference (Simulation 4 with Socioeconomic Status of High School to Include Percent Single Parent Household and Percent Non-English Speaking, and Faculty Child Preference							
White	26.3%	25.3%	24.9%	26.2%		-----	25.7%
Black	81.1%	84.5%	78.8%	82.2%		-----	81.6%
Hispanic	69.1%	56.6%	56.7%	65.5%		-----	61.7%
Asian	43.2%	41.6%	42.0%	43.0%		-----	42.4%
Other/Not available	37.2%	22.7%	25.4%	30.4%		-----	27.8%

Sources: MainDataA.csv, MainDataB.csv, MainDataC.csv, MainDataD.csv, UNC0379828.xlsx, UNC0379829.xlsx, UNC0379834.xlsx, UNC0379835.xlsx, UNC0379836.xlsx, UNC0379837.xlsx, ACS_16_5YR_B19013_with_ann.xlsx, mb_2008_pub.sas7bdat, mb_2009_pub.sas7bdat, mb_2010_pub.sas7bdat, mb_2011_pub.sas7bdat, mb_2012_pub.sas7bdat, pcaudit_pub2013.sas7bdat, pcaudit_pub2014.sas7bdat,

Appendix E



Richard Kahlenberg <kahlenberg@tcf.org>

Fwd: Use Facts, Not Courts, to Fix Affirmative Action

1 message

Michael Petrilli <mpetrilli@edexcellence.net>
 To: Richard Kahlenberg <kahlenberg@tcf.org>

Fri, May 31, 2013 at 1:56 PM

you might enjoy this back and forth

----- Forwarded message -----

From: **Michael Petrilli** <mpetrilli@edexcellence.net>

Date: Fri, May 31, 2013 at 1:17 PM

Subject: Re: Use Facts, Not Courts, to Fix Affirmative Action

To: Matthew Chingos <MChingos@brookings.edu>

Cc: Joanne Jacobs <joanne@joannejacobs.com>, Andy Smarick <andy.smarick@bellwethereducation.org>, Andy Rotherham <andy@bellwethereducation.org>, Kevin Carey <carey@newamerica.net>, Alexander Russo <alexanderrusso@gmail.com>, Andrew Kelly <Andrew.Kelly@aei.org>, "Grover J. Whitehurst" <gwhitehurst@brookings.edu>, Martin West <martin_west@gse.harvard.edu>, Paul Peterson <ppeterso@gov.harvard.edu>, Charles Murray <charlesamurray@comcast.net>, David Brooks <dvbrooks@aol.com>, Pete Wehner <pwehner@eppc.org>, Henry Olsen III <HOLsen@aei.org>, Todd Jones <tjones@aicuo.edu>, "Coleman, David" <dcoleman@collegeboard.org>

FYI, from Caroline:

Dear Mike and Matt,

Just to clarify. Our numbers suggest that there are sufficient number of low-income, high-achieving, underrepresented minority students out there to keep selective institutions as racially/ethnically diverse as they now are--without affirmative action in admissions. HOWEVER, this does not mean that schools could immediately achieve this. We would probably need (i) full-blown information interventions of the Hoxby-Turner type, (ii) additional recruiting directed to the students who are underrepresented minorities. (I am not sure that the Fisher decision will allow disproportionate recruiting, which is NOT the same thing as differential admissions standards.)

Matt is right in the following way. Suppose that a university replaced every underrepresented minority student for whom admissions standards had been cut with a low-income student who (a) did not need a cut in admissions standards and (b) was white/asian/black/hispanic in proportion to the population proportions among low-income, high-achieving students. Then, of course, every student "lost" would be an underrepresented minority and only some of the students "gained" would be underrepresented minorities.

My overall sense is that our research is somewhat orthogonal to the Fisher case. Fundamentally, that case is about whether affirmative action can be practiced at public/taxpayer-funded institutions in an effort to (a) achieve racial/ethnic diversity REGARDLESS of whether the students who are underrepresented minorities are disadvantaged and (b) make up for disadvantages suffered by students from some backgrounds.

Where Fisher seems to be heading is that (a) is not ok and (b) is ok. But, if the Court decides that affirmative action should be based on measures of economic disadvantage (or a more expansive measure of socio-economic disadvantage), then we have to face the fact that admissions standards at some schools are cut for underrepresented

minorities who are not --at least as measured-- more socio-economically disadvantaged than many whites. Moreover, it turns out that schools have really no need of affirmative action to improve their socio-economic diversity: they could achieve a lot more diversity simply by helping to ensure that qualified low-income students apply.

If schools want to pursue (a) still, my sense is that they might be able to achieve their goal through thoughtful recruiting among better-informed low-income students. However, if they are banned from using recruiting to pursue (a), then they'll have to face the fact that the Court has said that (a) is not a legitimate goal for taxpayer-funded schools.

So, you can see that our research is somewhat orthogonal. At the end of the day, it is still all about what the Court decides is ok.

CMH

On Fri, May 31, 2013 at 11:53 AM, Matthew Chingos <MChingos@brookings.edu> wrote:

No, that's not what I'm saying. Your understanding of the Hoxby study is correct: it identified lots of low-income students who would get into selective universities if they applied, and would do well there if they attended.

What I don't buy in your piece is where you jump from that finding to the conclusion that universities can attain similar levels of diversity in the absence of affirmative action simply by doing more to recruit talented low-income students. I just don't think the numbers are there, especially when it comes to racial diversity.

Matt

From: Michael Petrilli [mailto:mpetrilli@edexcellence.net]

Sent: Friday, May 31, 2013 11:14 AM

To: Matthew Chingos

Cc: Joanne Jacobs; Andy Smarick; Andy Rotherham; Kevin Carey; Alexander Russo; Andrew Kelly; Grover J. Whitehurst; Martin West; Paul Peterson; Charles Murray; David Brooks; Pete Wehner; Henry Olsen III; Todd Jones; Coleman, David

Subject: Re: Use Facts, Not Courts, to Fix Affirmative Action

Hi Matt. I'm prepared to offer a big mea culpa if I messed this one up. My understanding of the Hoxby study is that it showed that there are lots of low-income students out there--mostly white, but also minorities--**who would get into selective universities if only they applied**. And who would do well there if accepted.

Are you saying that the only reason many of these students would get into those schools is because of affirmative action? If so, I definitely missed that point!

Mike

On Fri, May 31, 2013 at 10:00 AM, Matthew Chingos <MChingos@brookings.edu> wrote:

Mike,

I think this piece misses the mark. It seems highly unlikely that there are enough qualified disadvantaged students to create similar levels of diversity in the absence of explicit affirmative action policies. I'd be surprised if even a back-of-the-envelope calculation could back that up, assuming that all of the highly qualified low-SES students could be successfully recruited. And of course only some students are successfully recruited by relatively simple interventions like the Hoxby-Turner one—my understanding is that their intervention eliminates something like 20-30% of the disparity in colleges enrollment outcomes between high-achieving students from different income groups.

It's appealing to propose an easy solution to the affirmative action debate—simply doing more to recruit high-achieving students from disadvantaged backgrounds, and for only \$6 per student!—but I don't think you can get from the findings of the Hoxby-Avery and Hoxby-Turner studies to your conclusion that colleges can get the diversity they seek through cheap and easy means (although of course they should do more to recruit disadvantaged students, including information interventions like Hoxby-Turner). I doubt you could even show that they can get it by waving a magical wand that causes all high-achieving, low-income students in the country to attend selective colleges. And it would be even harder to show that they could achieve diversity in terms of race (as opposed to income) through recruitment alone.

If you've run any of these numbers and they support your conclusion, I'd be really interested to see them.

Matt

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From: Michael Petrilli [<mailto:mpetrilli@edexcellence.net>]

Sent: Friday, May 31, 2013 9:27 AM

To: Joanne Jacobs; Andy Smarick; Andy Rotherham; Kevin Carey; Alexander Russo; Andrew Kelly; Grover J. Whitehurst; Matthew Chingos; Martin West; Paul Peterson; Charles Murray; David Brooks; Pete Wehner; Henry Olsen III; Todd Jones; Coleman, David

Subject: Use Facts, Not Courts, to Fix Affirmative Action

FYI

Use Facts, Not Courts, to Fix Affirmative Action

By Michael Petrilli May 30, 2013 11:43 AM ET

The U.S. Supreme Court is poised to announce its decision in the biggest affirmative action case in years: *Fisher v. University of Texas*. Before it does, let's consider two important findings about the real world of higher education.

The most recent one is a Brookings Institution study published this month showing that several long-standing federal programs intended to prepare low-income students for college don't work. These programs send funds to colleges and universities, which run summer schools, counseling programs and other initiatives to help disadvantaged high schoolers get ready for college. Despite the billion-dollar-a-year investment, they make no apparent difference.

The other finding was in the blockbuster research by Stanford's Caroline Hoxby and Harvard's Christopher Avery released in December. The study identified tens of thousands of qualified low-income students, 30 percent of them racial minorities, who aren't even applying to elite colleges. If they did, the study concluded, they would almost surely be admitted, receive a lot of financial aid and have the potential to perform well.

The take-away from both studies is that higher education is spectacularly bad at "affirmative action," as originally envisioned: reaching out to disadvantaged students and preparing them to attend good schools. Yet it's also clear that the original vision, if properly carried out, would lead to the diverse campuses the administrators say they want.

Based on this research, it's hard to imagine how anyone can continue to defend the use of affirmative action to lower standards for students from minority groups. The rationale for this policy rests on a false premise, the presumption of scarcity: that there aren't enough minority students who meet traditional qualifications.

It's true that, on average, minority students leave high school performing far behind their white counterparts. But selective colleges aren't dealing with average students, only a tiny slice of the best and brightest. And here, according to Hoxby and Avery, there's much less scarcity than anyone presumed -- an untapped pool of talented low-income students, many of them African-American or Latino, waiting to be recruited.

A follow-up study by Hoxby and the University of Virginia's Sarah Turner showed that a little information can go a long way. They sent packets of college information to a random selection of low-income high-achievers. These students were 80 percent more likely to gain admission to a selective college than their peers who didn't get the packets.

The mailings cost just \$6 apiece. Shipping one to every high-achieving low-income student in, say, Texas, would cost less than \$100,000 a year. The University of Texas isn't the richest college in the country, but it has an endowment of more than \$7 billion, according to published reports. So rather than ask whether UT has a "compelling interest" in the educational value of student diversity, as some Supreme Court justices are wont to do in the *Fisher* case, they should ask: Why can't the University of Texas spend .001 percent of its endowment each year to achieve the diversity it seeks without resorting to the double standard of admitting students who aren't prepared?

(Michael Petrilli is the executive vice president at the Thomas B. Fordham Institute and a research fellow at the Hoover Institution. Follow him on Twitter.)